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COMMENT

COPYRIGHT INFRINGEMENT WAS NEVER THIS EASY: RAM COPIES AND THEIR IMPACT ON THE SCOPE OF COPYRIGHT PROTECTION FOR COMPUTER PROGRAMS

Just as people and businesses often find the transition to computers difficult, integrating computer software into the realm of copyright law has proven to be a daunting task.¹ Incomplete and incorrect knowledge about the nature and capabilities of computers and computer software leads to poor decisions by office managers, judges, and legislators alike.² The failure to consider carefully and thoroughly the future effects of a decision can lead to serious problems.³

1. See, e.g., *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 712 (2d Cir. 1992) (stating that "many of the decisions in . . . [the] area [of copyright protection of computer software] reflect the courts' attempt to fit the proverbial square peg in a round hole"); Pamela Samuelson, et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2310 (1994) (arguing that existing copyright law does not adequately protect computer software).

2. See, e.g., Stephen Green, *DMV Report Blames Managers for Failure of Computer System*, SACRAMENTO BEE, May 26, 1994, at A5 (reporting that state agency managers "succumbed too readily to industry hype" in believing that the scrapped computer system they purchased could use the most advanced technology); John F. McMullen, *Editorial — Reflections on Hacker Sentencing*, NEWSBYTES NEWS NETWORK, July 29, 1993 (arguing that the federal judge hearing a computer crimes case "showed a complete lack of understanding of the technology related to the case"); Belden Menkus, *U.S. Stock Exchange Computer Failure Proves Costly*, COMPUTER FRAUD & SEC. BULL., Sept. 1994 (describing impact of computer failure that caused the shutdown of the NASDAQ stock exchange for 150 minutes, and explaining that installation of new telecommunications software caused the outage). This Comment describes, *inter alia*, how Congress' simple change in the language of the Copyright Act has helped to create the RAM copy problem. See *infra* notes 39-70 and accompanying text.

3. For an example of such problems in the practical realm, see Stephen Green & Mary Lynne Vellinga, *State Fears a Computer Nightmare*, SACRAMENTO BEE, June 16, 1994, at A1 (describing California's various problems with outdated, expensive, and obsolete computer projects and systems caused in part by the state managers', who purchased the systems, lack of expertise).

The Ninth Circuit's decision in *MAI Systems Corp. v. Peak Computer, Inc.*⁴ highlights such a problem in copyright law.⁵ Despite the Ninth Circuit's legitimate interpretation of the definitions and provisions of the Copyright Act of 1976 ("Copyright Act" or "1976 Act"),⁶ its decision effectively holds that the mere act of turning on a computer can infringe the copyright in the software that runs the machine.⁷ In practical terms, the decision permits a company that manufactures operating system software to prevent other companies from servicing machines that operate under that software.⁸ Few in the field, including commentators, customers, and service organizations, expected such a result, and several commentators argue that the holding in *MAI Systems* does not promote the policies underlying copyright law.⁹ In addition, the Ninth Circuit's decision, and those that follow it,¹⁰ rest on valid interpretations of the Copyright Act, but reach conclusions that critics assert are inequitable, impractical, and nonsensical.¹¹

4. 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994).

5. See *infra* notes 91-243 and accompanying text (describing how *MAI Systems* and its progeny, while resting on proper interpretation of the Copyright Act, lead to inequitable results).

6. Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (1976) [hereinafter "Copyright Act" or "1976 Act"].

7. See *infra* notes 97-154 and accompanying text (describing *MAI Systems* and the cases following it). Programs that run a computer are known as "operating system programs." *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1243 (3d Cir. 1983), *cert. dismissed*, 464 U.S. 1033 (1984); see also PETER J. DENNING & WALTER F. TICHY, *ENCYCLOPEDIA OF COMPUTER SCI.* 966 (Anthony Ralston & Edwin D. Reilly eds., 3d ed. 1993).

8. See *infra* note 90 (arguing that *MAI Systems* and its progeny can be used by software producers to eliminate competition posed by independent service organizations).

9. See, e.g., Ronald S. Katz & Janet S. Arnold, *MAI v. Peak: An Unprecedented Opinion With Sparse Analysis*, *THE COMPUTER LAWYER*, May 1993, at 18 (arguing that the Ninth Circuit ignored prior case law and did not consider the practical impact of its decision); Trinnie Arriola, Note, *Software Copyright Infringement Claims after MAI Systems v. Peak Computer*, 69 WASH. L. REV. 405 (1994) (arguing that the decision does not promote the goals of federal copyright law and needlessly harms computer users); Michael E. Johnson, Note, *The Uncertain Future of Computer Software Users' Rights in the Aftermath of MAI Systems*, 44 DUKE L.J. 327, 328-29 (Nov. 1994) (arguing that *MAI Systems* threatens the rights of software users and suggesting a judicial interpretation of the Copyright Act in light of its underlying policies to protect users); see also *infra* notes 257-70 and accompanying text (arguing that courts should use the fair use provision of the Copyright Act to avoid harm to computer users). Note that Mr. Katz and Ms. Arnold represented the defendant independent service organizations in *MAI Systems*.

10. *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. Mar. 18, 1994), *aff'd in part and rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356 (E.D. Va. 1994).

11. See, e.g., Katz & Arnold, *supra* note 9, at 18 (describing the drastic impact *MAI Systems* will have on independent service organizations); Arriola, *supra* note 9, at 405 (ar-

The heart of the problem in cases like *MAI Systems* is the “RAM copy.”¹² RAM, an acronym for Random Access Memory, consists of the electronic circuitry inside a computer that can store the instructions and data comprising a computer program.¹³ For a computer to run any program, it must load all or some of the program into RAM.¹⁴ In addition, when a computer is turned on, the operating system software necessary to use the computer is automatically loaded into RAM.¹⁵ These technological circumstances underlie the central issue of *MAI Systems*: whether the loading of a computer program into RAM creates a copy that infringes the copyright of the program.¹⁶

At first glance, § 117 of the Copyright Act appears to provide a simple solution to this problem.¹⁷ It exempts from infringement those copies

guing that *MAI Systems* subverts software users' rights and fails to account for the practical realities of the computer industry); Johnson, *supra* note 9, at 328-29 (arguing that *MAI Systems* threatens the rights of software users and impermissibly expands the rights of copyright owners).

12. This term will be used throughout this Comment to facilitate readability. Use of the words “copy” and “copies” refers only to the version of a computer program that exists in RAM, and does not mean necessarily that these versions of computer programs meet the statutory definition of “copies” under the Copyright Act, 17 U.S.C. § 101 (1988). See *infra* notes 114-54 and accompanying text (discussing courts' analyses of whether RAM copies meet the statutory definition of “copies” that can infringe).

13. See *Advanced Computer Servs.*, 845 F. Supp. at 362; Denning & Tichy, *supra* note 7, at 849. RAM requires a constant flow of electricity, and all information stored in RAM is lost when that flow ceases. *Advanced Computer Servs.*, 845 F. Supp. at 362. Thus, RAM differs from other forms of electronic storage, such as ROM (“Read Only Memory”), or magnetic disks and tape, all of which retain their information without electricity. *Id.* For example, the program that runs a hand-held calculator exists permanently in ROM even when the calculator is turned off.

14. *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 517 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994). In general, the computer loads the program into RAM from magnetic storage, such as a hard disk drive or floppy disk. *Id.* at 514.

15. *Id.* at 518. When a user instructs a computer to begin a program, the computer loads the necessary elements of the program into RAM because the computer can manipulate data and instructions that exist in RAM faster and more easily than data found in another medium.

16. Infringement of a copyright specifically means to “violate[] any of the exclusive rights of the copyright owner as provided by sections 106 through 118” of the Copyright Act. 17 U.S.C. § 501(a) (Supp. IV 1992). The exclusive right at issue in this Comment is the right “to reproduce the copyrighted work in copies or phonorecords.” 17 U.S.C. § 106(1) (1988). If the act of loading a computer program into RAM is equivalent to reproducing the work in a copy, then such an act infringes the copyright in that computer program.

17. The full text of § 117 is as follows:

§ 117. Limitations on exclusive rights: Computer Programs

Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:

that must be made in order to operate the program.¹⁸ Clearly the RAM copies necessarily made in the normal use of computer programs qualify as copies made in an "essential step" in the utilization of a computer program.¹⁹ But § 117 allows only lawful "owners" of a copy of a computer program to use its protection.²⁰ In enacting § 117, Congress, without explanation, contributed to the ambiguity surrounding the language of the statute when it made only one change to the language proposed by the commission established to develop amendments to copyright law to account for computer technology: it replaced the words "rightful possessor" in § 117 with the word "owner."²¹ This seemingly innocent substitu-

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- (1) that such a new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
 - (2) that such new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.

Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authorization of the copyright owner.

Id. § 117 (1988).

18. *Id.* § 117(1) (stating that "it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy . . . provided that such a new copy . . . is created as an essential step in the utilization of the computer program in conjunction with a machine").

19. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 261 (5th Cir. 1988) (holding that a RAM copy made during use qualifies as an "essential step" copy regardless of the user's purpose in running the program); Robert A. Kreiss, *Section 117 of the Copyright Act*, 1991 B.Y.U. L. REV. 1497, 1525 (1991) ("[l]oading a program into a computer [(making a RAM copy)] is an obvious example of the making of a permissible copy under [§ 117(1)]"); see also *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 n.5 (9th Cir. 1993) ("Since MAI licensed its software, the Peak customers [*i.e.* users of MAI computers and software who have Peak service their machines] do not qualify as 'owners' of the software and are not eligible for protection under § 117"); *infra* notes 42-90 and accompanying text (describing how the cases holding that § 117 does not apply to RAM copies did so only on the ground that the defendants were not "owners" of the software, and did not reach whether preparing a RAM copy meets the "essential step" exception).

20. *MAI Systems*, 991 F.2d at 518; *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1089 n.9 (9th Cir. 1989); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356 (E.D. Va. 1994); *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995); *CMAX/Cleveland, Inc. v. UCR, Inc.*, 804 F. Supp. 337 (MD. Ga. 1992); *Hubco Data Prod. Corp. v. Management Assistance Inc.*, 219 U.S.P.Q. 450 (D. Idaho 1983); Stephen Kyle Tapp & Daniel E. Wanat, *Computer Software Copyright Issues: Section 117 and Fair Use*, 22 MEM. ST. U. L. REV. 197, 238-58 (1992); Kreiss, *supra* note 19, at 1537-38; see also *infra* notes 47-70 and accompanying text (analyzing courts' interpretations of the § 117's ownership requirement).

21. In 1974, Congress created the National Commission on New Technological Uses of Copyrighted Works [hereinafter "CONTU"] to study changes in copyright law needed to

tion causes problems that § 117 was supposed to avoid.²² The defendants in the RAM copy cases, and nearly all users of commercial software, are not owners but *licensees* of computer programs, and thus do not necessarily qualify for the § 117 defenses.²³

This Comment explains the nature of copyright problems arising from the RAM copy, and proposes alternative interpretations of copyright law that lead to more practical solutions. This Comment begins with a discussion of the history of copyright protection for computer programs, including the congressional amendments to the Copyright Act that specifically address computer programs; in particular § 117. This Comment next examines how the provisions of amendments most relevant to RAM copies have been interpreted and applied. This Comment then analyzes the three cases that have addressed whether RAM copies infringe the copyright in a computer program, giving detailed consideration to the various defenses asserted by the alleged infringers. Finally, this Comment proposes an analysis to solve the RAM copy problem that does not disregard the language of the Copyright Act.

accommodate the increasing use of machines such as computers and photocopiers. Act of Dec. 31, 1974, Pub. L. No. 93-573, tit. 2, § 206(b), 88 Stat. 1873 (codified as amended at 2 U.S.C. § 206(b) (Supp. IV 1974)). CONTU issued its report in 1978. FINAL REPORT OF THE NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS (1978) [hereinafter "CONTU REPORT"]. The language CONTU proposed for § 117 allowed "rightful possessors" to use its defenses. Compare *id.* at 12 (using the term "rightful possessors") with 17 U.S.C. § 117 (1988) (using the term "owners"). The legislative history behind the enactment of § 117 does not explain the change. See H.R. REP. NO. 1307, 96th Cong., 2d Sess., pt. 1, 23, reprinted in 1980 U.S.C.C.A.N. 6460, 6482. For speculation by commentators as to the reasons for change, see *infra* note 41. On January 17, 1995, Rep. Joseph K. Knollenberg (Michigan) introduced a bill that would, if enacted, change the word "owner" back to "rightful possessor." H.R. 533, 104th Cong., 1st Sess. (1995).

22. See CONTU REPORT, *supra* note 21, at 13 (explaining that, because a RAM copy is capable of infringement, then some protection should exist to users who automatically and necessarily create RAM copies simply by using a computer program). CONTU concluded that "the law should provide that persons in rightful possession of copies of programs be able to use them freely without fear of exposure to copyright liability." *Id.*; see *infra* note 77 (quoting in full CONTU's stated desire to protect the rightful use of a computer program from infringement liability); see also Johnson, *supra* note 9, at 331 (describing CONTU's attempt to strike a balance between the rights of owners of copyrights in computer programs and users of computer programs).

23. A "licensee" is defined as a "[p]erson to whom a license has been granted." BLACK'S LAW DICTIONARY 921 (6th ed. 1990). A "license" is defined broadly as "[l]eave to do thing which the licensor could prevent." *Id.* at 920. Because the computer programs at issue in RAM copy cases were conveyed to the users under a license agreement and not through a sale, the users were deemed licensees, not owners. See *infra* notes 47-70 and accompanying text (analyzing the case law applying § 117 to licensees); Johnson, *supra* note 9, at 341-48 (arguing that users of computer programs conveyed under restrictive license agreements should be deemed owners for purposes of § 117).

I. FOUNDATION OF COPYRIGHT PROTECTION FOR COMPUTER SOFTWARE

A. Pre-1978 Copyright Law

Before 1978, computer programs received uncertain treatment under copyright law.²⁴ In this period, copyright protection was governed by the Copyright Act of 1909.²⁵ For obvious reasons, computer programs did not receive explicit treatment under this statute. However, courts rejected copyright protection for works analogous to computer programs; that is, works that were used in conjunction with a machine that could not be read by humans.²⁶ In 1964, the Copyright Office²⁷ first accepted computer programs for registration under its "rule of doubt."²⁸ Only after Congress began the process of revising the copyright law, which culminated in the 1976 Act, did computer programs receive explicit treatment under copyright law.²⁹

B. The Copyright Act of 1976

Despite its efforts to include computer programs in the 1976 revision of the copyright laws, Congress did not address computer programs explicitly in the 1976 Act as originally enacted.³⁰ However, Congress defined

24. CONTU REPORT, *supra* note 21, at 9.

25. Act of Mar. 4, 1909, Ch. 320, 35 Stat. 1075 (1909).

26. *White-Smith Music Publishing Co. v. Apollo Co.*, 209 U.S. 1 (1908) (holding that copying musical works in the form of piano rolls used in player pianos did not constitute infringement because the information contained on the rolls could not be read by humans); *see also* *Brown Instrument Co. v. Warner*, 161 F.2d 910 (D.C. Cir.) (holding that a calibrated graphic chart used by a machine was not copyrightable because it failed to convey information to a human), *cert. denied*, 332 U.S. 801 (1947).

27. The Copyright Office, located within the Library of Congress, maintains copyright registrations and performs other related tasks. *See* 17 U.S.C. §§ 701-710 (1988). Each registrant must submit copies of the copyrighted work with his or her application, which become part of the Library's holdings. *Id.* § 704. Registration with the Copyright Office is not necessary to obtain copyright protection but it provides valuable procedural benefits, such as *prima facie* evidence of ownership and validity of the copyright. *See id.* §§ 411-412.

28. CONTU REPORT, *supra* note 21, at 15. The Copyright Office required authors to submit human-readable versions of the programs. *Id.* The "rule of doubt" refers to the Copyright Office's reluctance to use its power to deny registration of submitted works if any doubt exists as to whether the work is copyrightable. ROBERT A. GORMAN & JANE C. GINSBURG, *COPYRIGHT FOR THE NINETIES* 49 (4th ed. 1994).

29. CONTU REPORT, *supra* note 21, at 3-4 (describing the history of copyright protection for computer programs).

30. *See* 17 U.S.C. § 117 (Supp. I 1977) (amended 1980). Prior to 1980, § 117 provided that:

Notwithstanding the provisions of sections 106 through 116 and 118, this title does not afford to the owner of copyright in a work any greater or lesser rights with respect to the use of the work in conjunction with automatic systems capable of storing, processing, retrieving, or transferring information, or in conjunction

the term "copies" with new and future technological advances in mind, and provided that "copies" include works that can be perceived only with the aid of a machine.³¹ This definition of "copies" plays a vital role in the "RAM copy" problem.³²

C. The Commission on New Technological Uses of Copyrighted Works (CONTU) and the 1980 Amendments

Congress established CONTU in 1974 to study and propose legislation regarding the reproduction and use of copyrighted works in relation to computers and photocopiers.³³ In 1978, CONTU issued its report and proposed legislation.³⁴ A majority of the commissioners³⁵ concluded that copyright law should protect computer programs.³⁶ CONTU proposed two changes to copyright law: (1) add a definition of "computer program" to § 101, and (2) repeal the old § 117 and replace it with a new

with any similar device, machine, or process, than those afforded to works under the law, whether title 17 or the common law or statutes of a State, in effect on December 31, 1977, as held applicable and construed by a court in an action brought under this title.

Id. This provision held computer program issues in abeyance until CONTU submitted its recommendations to Congress. H.R. REP. NO. 1476, 94th Cong., 2d Sess. 116 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5731.

31. 17 U.S.C. § 101 (1988); *see also* H.R. REP. NO. 1476, *supra* note 30, at 52, *reprinted in* 1976 U.S.C.C.A.N. at 5665 (explaining that the new definition of "copies" is intended to avoid the problems posed by cases like *White-Smith Publishing Co. v. Apollo Co.*); *infra* notes 114-54 and accompanying text (analyzing courts' interpretation of the definition of "copies" in terms of a computer program loaded into RAM).

32. *See infra* notes 114-54 and accompanying text (analyzing the courts' interpretation of the statutory definitions of "copies" and "fixed" as applied to RAM copies).

33. Act of Dec. 31, 1974, Pub. L. No. 93-573, tit. 2, §§ 204, 206(b), 88 Stat. 1873 (codified as amended at 17 U.S.C. § 201, 206(b) (Supp. IV 1974)). Efforts to study the effects of new technology on copyright law began as early as 1967 with Sen. John L. McClellan and the Senate Subcommittee on Patents, Trademarks, and Copyrights. CONTU REPORT, *supra* note 21, at 3-4.

34. *See* CONTU REPORT, *supra* note 21. The report came two years after Congress had enacted the 1976 Act. *See id.* at 7. Congress anticipated CONTU's recommendations regarding photocopying in certain sections of the 1976 Act. *Id.* (describing the codification of the "fair use" doctrine in § 107 and the grant of specific exemptions of infringement for certain uses by libraries and archives in § 108.) However, Congress expressly refrained from addressing copyright protection in computer programs until CONTU published its recommendations. *Id.*; *see also supra* note 30 (containing the text of the provisional § 117).

35. The following 14 individuals served as the commissioners of CONTU: Stanley H. Fuld, Chairman; Melville B. Nimmer, Vice-Chairman; George D. Cary; William S. Dix; John Hersey; Rhoda H. Karparkin; Dan M. Lacy; Arthur R. Miller; E. Gabriel Perle; Hershel B. Sarbin; Robert Wedgeworth; Alice E. Wilcox; Daniel Boorstin (*ex officio*); and Babara A. Ringer (*ex officio*). CONTU REPORT, *supra* note 21, at ix.

36. *Id.* at 12. All of the commissioners agreed that some form of intellectual property protection should cover computer programs. *Id.* However, three of the commissioners disagreed as to whether copyright law should provide that protection. *Id.*

proposed § 117.³⁷ These changes were designed to provide clear statutory protection for computer programs without inhibiting their rightful use.³⁸

In 1980, Congress enacted computer-related amendments to the Copyright Act, noting in the legislative history that the amendments adopted CONTU's recommendations.³⁹ The only change Congress made to CONTU's proposed legislation was to substitute the word "owner" for the phrase "rightful possessor" in the first paragraph of § 117.⁴⁰ Congress gave no explanation for this change.⁴¹

II. INTERPRETATION AND APPLICATION OF THE § 117 PRIVILEGES

Since 1980, federal courts have interpreted and applied § 117 to a variety of circumstances.⁴² The applicability of § 117 to the RAM copy situa-

37. *Id.* The proposed definition of "computer program," which was enacted without change, is as follows: "A 'computer program' is a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." *Id.*; accord 17 U.S.C. § 101 (1988). The proposed § 117 contained language identical to the section eventually enacted, except that CONTU proposed the phrase "rightful possessor" instead of the enacted "owner" in the first paragraph of the section. Compare CONTU REPORT, *supra* note 21, at 12 with 17 U.S.C. § 117 (1988).

38. CONTU REPORT, *supra* note 21, at 12 (explaining that the proposed changes to § 101 and § 117 should "make the law clear regarding both proprietors' and users' rights" and should "provide reasonable protection for proprietors without unduly burdening users of programs and the general public").

39. H.R. REP. NO. 1307, *supra* note 21, at 23, reprinted in 1980 U.S.S.C.A.N. at 6482 (explaining that the amendments "embod[y] the recommendations of [CONTU] . . . with respect to clarifying the law of copyright of computer software"). Courts generally consider the CONTU REPORT to be the legislative history to the 1980 amendments to the Copyright Act. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 260-61 (5th Cir. 1988); *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33, 35 (D. Mass. 1984); *Atari, Inc. v. JS & A Group, Inc.*, 597 F. Supp. 5, 9 (N.D. Ill. 1983).

40. See *supra* notes 21 and 37 (describing the change made by Congress to the CONTU draft legislation).

41. See H.R. REP. NO. 1307, *supra* note 21, at 23, reprinted in 1980 U.S.S.C.A.N. at 6482. Commentators have speculated as to why the change was made. See, e.g., U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, FINDING A BALANCE: COMPUTER SOFTWARE, INTELLECTUAL PROPERTY, AND THE CHALLENGE OF TECHNOLOGICAL CHANGE 68 (1992) (speculating that the change "reflected concerns of the Justice Department relating to antitrust considerations"); Cary H. Sherman, *Special Problems With Computer Uses of Copyrighted Works: What Does Section 117 Really Mean?*, in COMPUTER LAW INST. 1986, at 313 (PLI Pat., Copyright, Trademark & Literary Prop. Course Handbook Series No. 230, 1986) (noting that sources inside CONTU reveal that the change was made to leave intact the rights of parties operating under existing licensing agreements); Tapp & Wanat, *supra* note 20, at 239 n.176 (hypothesizing that change was made to harmonize § 117 with language in § 109, the "first-sale" doctrine).

42. See, e.g., *Apple Computer, Inc. v. Formula Int'l*, 594 F. Supp. 617, 622 (C.D. Cal. 1984) (rejecting a claim that placing a copy of a computer program onto ROM chips is an "essential step"); *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33, 35 (D. Mass. 1984)

tion, if any, would be through § 117(1), which allows the making of a copy when it is an “essential step” in utilizing the computer program.⁴³ However, before reaching § 117(1), it is necessary to resolve the threshold issue of who is entitled to use § 117.⁴⁴ This issue is critical in the cases involving independent service organizations.⁴⁵ Thus, in analyzing the RAM copy situation, the most important decisions are those that have construed the “ownership” and “essential step” requirements of § 117.⁴⁶

A. Section 117 and its Ownership Requirement

The cases interpreting the ownership requirement of § 117 fall roughly into three categories: (i) those where possession of the copy of the computer program was found to be unlawful, and therefore § 117 was held not to apply without determining whether the defendant was an owner or possessor;⁴⁷ (ii) those where the courts narrowly construe “owner” to exclude licensees as mere possessors;⁴⁸ and (iii) two cases that implicitly

(rejecting a claim that typing a program into a computer and then making duplicate copies onto disk is an “essential step”).

43. Two other activities are permitted by § 117: the making of adaptations of a computer program when such adaptations are essential to the utilization of the program and the making of archival or backup copies. 17 U.S.C. § 117(1), (2) (1988). Neither activity encompasses the making of a RAM copy to use a computer program. *See id.*

44. *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 367 (E.D. Va. 1994); *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239, 1242 n.4 (N.D. Cal. 1994), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995).

45. *MAI Sys.*, 991 F.2d at 518; *Advanced Computer Servs.*, 845 F. Supp. at 367; *Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.4.

46. This is true because RAM copies do not implicate § 117(2), which allows owners of a copy of a computer program to make archival copies to protect against electronic or mechanical failure. 17 U.S.C. § 117(2) (1988); *see also supra* notes 17 and 43 (quoting full text of § 117 and describing the activities it permits).

47. *See ISC-Bunker Ramo Corp. v. Altech, Inc.*, 765 F. Supp. 1310, 1332 (N.D. Ill. 1990) (holding that § 117 “affords no immunity whatsoever to infringers . . . that have come into unauthorized possession of the software”); *GCA Corp. v. Chance*, 217 U.S.P.Q. (BNA) 718, 721 (N.D. Cal. 1982) (denying § 117 protection to defendants who “took protected works with full knowledge that they had no right to them”); *cf. Apple Computer, Inc. v. Formula Int'l, Inc.*, 594 F. Supp. 617, 621-22 (C.D. Cal. 1984) (denying § 117 privilege to defendant reseller, who rightfully possessed the computer program but who was not the intended “owner-user” of the computer program).

48. *MAI Sys.*, 991 F.2d at 518 (denying § 117 protection to licensees); *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1089 n.9 (9th Cir. 1989) (holding that “[a]n owner of a copy of computer software has certain rights under the Copyright Act which a mere possessor does not”); *Advanced Computer Servs.*, 845 F. Supp. at 367; *Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.4; *CMAX/Cleveland, Inc. v. UCR, Inc.*, 804 F. Supp. 337, 356 (M.D. Ga. 1992) (refusing to allow defendant § 117 protection because it was a lessee and possessor and not an owner); *Hubco Data Prods. Corp. v. Management Assistance Inc.*, 219 U.S.P.Q. (BNA) 450, 456

construed "owner" broadly to include a licensee.⁴⁹ The trend of the cases leans toward the second alternative, which prevents licensees from using § 117.⁵⁰

The leading case against the trend, *Vault Corp. v. Quaid Software Ltd.*,⁵¹ interprets the word "owner" broadly, but does not expressly confront the clear language of the statute.⁵² The plaintiff, Vault, created a computer program that other software producers could use to lock their own computer programs and prevent copying by their customers.⁵³ Vault conveyed the program to customers through a "shrink-wrap" license⁵⁴ under which Vault retained title to the copy of its locking software.⁵⁵ Defendant Quaid lawfully obtained a copy of Vault's program, ran the program—which necessarily copied the program into RAM—to observe how it worked, and then used this information to create a program, called

(D. Idaho 1983) (excluding defendant from § 117's protection because the defendant used its customers' software which it did not possess).

49. *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 261 (5th Cir. 1988) (allowing a licensee to use § 117); *Foresight Resources Corp. v. Pfortmiller*, 719 F. Supp. 1006, 1009-10 (D. Kan. 1989) (concluding that "[t]here is no question that [the defendant] is the lawful owner of a copy of the . . . program," despite the license agreement governing the conveyance of the program).

50. Since 1988, when the Fifth Circuit in *Vault* construed "owner" broadly, the Ninth Circuit and the Eastern District of Virginia have narrowly construed the term. See *supra* note 48 (citing cases narrowly construing the "ownership" requirement). Moreover, several commentators approve of this narrow reading. See, e.g., Kreiss, *supra* note 19, at 1537-38 (arguing that Congress' change to a narrower class of persons entitled to § 117's protection should be upheld); Tapp & Wanat, *supra* note 20, at 258 (arguing that "owner" should be construed in favor of the copyright holder, and thus exclude licensees). *Contra* Arriola, *supra* note 9, at 422-23 (arguing that a narrow construction of the term "owner" contravenes the policy behind § 117 of protecting software users' rights); Johnson, *supra* note 9, at 341-45 (arguing that the policies behind § 117 support a construction of "owners" to include licensees); Richard H. Stern, *Section 117 of the Copyright Act: Charter of the Software Users' Rights or an Illusory Promise?*, 7 W. NEW ENG. L. REV. 459, 467 & 478-85 (1985) (contending that the term "owner" would permit "sleight of hand" by software producers to avoid § 117 and proposing amendments to reinstate CONTU's "rightful possessor" language).

51. 847 F.2d 255 (5th Cir. 1988).

52. *Id.* at 260-61.

53. *Id.* at 256.

54. A "shrink-wrap" license is one that is visible on the unopened packaging of the computer software and makes acceptance of the terms of the license automatic upon the opening of the package. See Page M. Kaufman, Note, *The Enforceability of State "Shrink-Wrap" License Statutes in Light of Vault Corp. v. Quaid Software, Ltd.*, 74 CORNELL L. REV. 222, 222-23 n.9 (1988).

55. *Vault*, 847 F.2d at 257 n.2. The license provided that "[t]itle to the Licensed Software and all copyrights and proprietary rights in the Licensed Software shall remain with VAULT." *Id.*

"RAMKEY," which defeated the copy-protection provided by Vault's program.⁵⁶

Despite quoting in its entirety the language of both the proposed and enacted versions of § 117, and noting that Congress had changed the words "rightful possessor" to "owner," the court in *Vault* did not discuss whether Quaid was an owner or possessor.⁵⁷ Instead, it analyzed only whether Quaid's creation of the RAM copy met the "essential step" requirement of § 117(1).⁵⁸ Therefore, the court held *sub silentio* that Quaid "owned" the copy of the computer program.⁵⁹

The cases that narrowly construe "owner" to exclude software licensees usually do so without much discussion.⁶⁰ The cases simply rely on the users' status as licensees to conclude that they do not qualify as "owners"

56. *Id.* at 257. Despite Quaid's surreptitious motive, the copy of Vault's program that it loaded into RAM was the same copy that must be loaded for someone to use the program as it was intended. *Id.* at 261. Whether this creation of a RAM copy qualifies for the "essential step" exception under § 117(1) is discussed *infra* in the text accompanying notes 71-90.

57. See *Vault*, 847 F.2d at 260-61.

58. *Id.* at 261.

59. See Tapp & Wanat, *supra* note 20, at 247. In a separate section of the opinion, the court ruled that the Louisiana Software License Enforcement Act could not be used to enforce Vault's license because the Act was, in part, preempted by the federal Copyright Act. *Vault*, 847 F.2d at 268-70. One might argue that, because the license was unenforceable, Vault's retention of title to the copy of the computer program was not valid and proprietary ownership of the tangible copy passed to Quaid. See John M. Conley & Vance F. Brown, *Revisiting § 117 of the Copyright Act: An Economic Approach*, THE COMPUTER LAW., Nov. 1990, at 1, 5. This argument becomes circular when one realizes that the license and the Louisiana Act touched upon areas of federal concern, in part, by limiting rights Quaid had under § 117. *Vault*, 847 F.2d at 270. This reasoning assumes that Quaid had rights to the tangible property as an owner in the first place. See Conley & Brown, *supra*, at 5; Charles R. McManis, *Intellectual Property Protection and Reverse Engineering of Computer Programs in the United States and European Community*, 8 HIGH TECH. L.J. 24, 83-84 (1993).

60. See *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993) (denying § 117 protection to licensees), *cert. dismissed*, 114 S. Ct. 671 (1994); *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1089 n.9 (9th Cir. 1989) (noting that "[a]n owner of a copy of software has certain rights under the Copyright Act which a mere possessor does not"); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 362-64, 367 (E.D. Va. 1994) (denying § 117 protection to licensees); *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994) (denying § 117 protection to licensees), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995); *CMAX/Cleveland, Inc. v. UCR, Inc.*, 804 F. Supp. 337, 356 (M.D. Ga. 1992) (refusing to allow defendant § 117 protection because the defendant was a lessee and possessor and not an owner); *Hubco Data Prods. Corp. v. Management Assistance Inc.*, 219 U.S.P.Q. (BNA) 450, 456 (D. Idaho 1983) (excluding defendant from § 117's protection because the defendant used its customers' software which it did not own).

under § 117.⁶¹ The opinions generally do not discuss the changes in language from the CONTU proposal.⁶²

The case for the broad construction of "owner" exemplified by *Vault* is difficult to maintain.⁶³ First, it contradicts the plain language of the statute.⁶⁴ The Supreme Court has held that the language of the copyright laws must be construed according to its common law meaning.⁶⁵ Therefore, the term "owner" in § 117 should be given its ordinary meaning, which excludes licensees who do not take title to the copy of the program.⁶⁶ Second, it ignores the only change Congress made to CONTU's proposed § 117—a change that implies that Congress intended a distinction between "owner" and "rightful possessor" in § 117.⁶⁷ Third, the broad interpretation fails to recognize that Congress has specifically distinguished between "owners" and "possessors" in § 109,⁶⁸ similar to § 117

61. *MAI Sys.*, 991 F.2d at 518 n.5; *S.O.S., Inc.*, 886 F.2d at 1088-89 n.9; *Advanced Computer Servs.*, 845 F. Supp. at 367; *Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.4; *Hubco*, 219 U.S.P.Q. at 456. While the discussion in some cases is too simple, it is not fundamentally flawed. For example, in *Triad Sys.* and *Hubco*, the court noted that the alleged infringers, which were outside organizations authorized by plaintiff's customers to use the software at issue, could not use § 117 because the outside organizations did not "own" the customers' software. *Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.4; *Hubco*, 219 U.S.P.Q. at 456. The courts in both cases overlooked the provision of § 117 that would allow a customer, if considered an "owner," to authorize the use of software permitted by § 117. 17 U.S.C. § 117 (1988 & Supp. V 1994) (stating "it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy.") (emphasis added). This point does not change the result because the license agreements render the customers non-owners and therefore unable to avail themselves of § 117. See *S.O.S., Inc.*, 886 F.2d at 1088-89 n.9.

62. *MAI Sys.*, 991 F.2d at 518 n.5; *S.O.S., Inc.*, 886 F.2d at 1088-89 n.9; *Advanced Computer Servs.*, 845 F. Supp. at 367; *Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.4; *Hubco*, 219 U.S.P.Q. at 456.

63. See Kreiss, *supra* note 19, at 1535-39; Tapp & Wanat, *supra* note 20, at 255-58; Conley & Brown, *supra* note 59, at 3. *Contra* Johnson, *supra* note 9, at 341-45 (arguing that the broad construction of "owner" is more consistent with the policies behind the Copyright Act than an interpretation based on the common law understanding of the term).

64. Kreiss, *supra* note 19, at 1535-38.

65. *Community for Creative Non-Violence v. Reid*, 490 U.S. 730, 739 (1989) (stating that "where Congress uses terms that have accumulated settled meaning under . . . the common law, a court must infer, unless the statute otherwise dictates, that Congress means to incorporate the established meaning of these terms' ") (quoting *NLRB v. Amax Coal Co.*, 453 U.S. 322, 329 (1981)).

66. Kreiss, *supra* note 19, at 1537-38 (concluding that § 117's legislative history as a whole supports giving the term "owner" as used in § 117 its common law meaning).

67. *Id.* (arguing that Congress' change from "rightful possessor" to "owner" is the most logical means through which Congress could express its intent to limit the class of persons entitled to § 117's protection).

68. See 17 U.S.C. § 109(a)-(d) (1988 & Supp. V 1994) (making an explicit distinction between "owner of a copyright in a computer program" and "person in possession of a particular copy of a computer program").

in that § 109 provides to “owners,” and not “possessors,” the right to sell, lease, lend, or otherwise dispose of the tangible copies of copyrighted works.⁶⁹ Thus, “owner” should be construed according to its common law definition, which does not include licensees who do not take title to the copy of the computer program.⁷⁰

B. Section 117 and the “Essential Step” Privilege

One cannot use computer software without creating RAM copies.⁷¹ Such copies are essential to the use of a computer program. Thus, the making of RAM copies falls within the “essential step” exception set forth in § 117(1).⁷² The only case law supporting this conclusion is *Vault Corp. v. Quaid Software Ltd.*⁷³ All other cases involving RAM copies never reached the “essential step” issue because the courts held that those who made the RAM copies failed to meet § 117’s “ownership” requirements.⁷⁴ Despite the dearth of case law on this issue, the purpose and intent behind § 117(1), as described in the CONTU report,⁷⁵ reveal that RAM copies qualify for its protection.⁷⁶ Indeed, the CONTU report indicates that § 117(1) was drafted precisely for the purpose of making RAM copies non-infringing.⁷⁷

69. *Id.*; Tapp & Wanat, *supra* note 20, at 215 n.67 (arguing that § 117’s “owner” should be read in harmony with § 109’s more explicit requirement that its provisions only apply when the defendant owns, and not merely possesses, a copy of a work).

70. *Accord* Kreiss, *supra* note 19, at 1535-38; Tapp & Wanat, *supra* note 20, at 258.

71. See DENNIS J. FRAILEY, *ENCYCLOPEDIA OF COMPUTER SCI.* 245-46, 251 (Anthony Ralston & Edwin D. Reilly eds., 3d ed. 1993).

72. Kreiss, *supra* note 19, at 1525; see also CONTU REPORT, *supra* note 21, at 13 (stating that “[o]ne who rightfully possesses a copy of a program . . . should be provided with a legal right to copy it to the extent which will permit its use by that possessor”).

73. 847 F.2d 255 (5th Cir. 1988).

74. See *supra* notes 60-61 and accompanying text.

75. See CONTU REPORT, *supra* note 21, at 12-13.

76. *Id.* at 13, 21 (describing how the proposed § 117 was designed to allow “rightful possessors” of computer programs to use them without fear of copyright liability).

77. In describing the purpose behind the proposed § 117, the CONTU REPORT states that:

[t]he law should provide that persons in rightful possession of copies of programs be able to use them freely without fear of copyright liability. . . . It is easy to imagine . . . a situation in which the copyright owner might desire, for good reason or none at all, to force a lawful owner or possessor of a copy to stop using a particular program. One who rightfully possesses a copy of a program, therefore, should be provided with a legal right to copy it to that extent which will permit its use by that possessor. This would include the right to load it into a computer [*i.e.*, to make RAM copies]

CONTU REPORT, *supra* note 21, at 13. This statement of purpose demonstrates CONTU’s conclusion that RAM copies made automatically when a computer program is used must be considered non-infringing. See *id.* In CONTU’s opinion, to conclude otherwise would

In addition to its implying that a licensee can use § 117,⁷⁸ *Vault* held that a RAM copy necessarily made during the operation of a computer program met the statutory exception to infringement provided by § 117(1).⁷⁹ At issue was whether the licensee's use of the program for a *purpose* different than the one intended by the copyright owner should bar application of § 117(1).⁸⁰ *Vault* argued that the words "and that it is used in no other manner"⁸¹ permit the making of RAM copies only when the software is used as the copyright owner intends.⁸² *Vault* argued that because the licensee used the *Vault*'s software only to create a program designed to defeat the copy protection provided by *Vault*'s program, any RAM copies made in furtherance of that purpose should not qualify for § 117(1) protection.⁸³ The court rejected this limitation as not expressly required by the language of the statute.⁸⁴ Despite the court's thin reasoning, its conclusion is supported by the purpose behind § 117(1) as expressed in the CONTU Report.⁸⁵ CONTU wanted the statute to protect users of computer programs from copyright owners who had "good reason or none at all"⁸⁶ for prohibiting the mere use of their programs. Thus, the court held correctly that the protection of § 117(1) should apply to RAM copies made in the "essential steps" of using a program regardless of the motive behind the users' running of the program.⁸⁷

Therefore, if a court reaches the issue of whether a RAM copy meets the "essential step" requirement of § 117(1), then it should conclude that it does.⁸⁸ The problem is that few courts get beyond § 117's ownership

allow the mere use of computer programs to support a claim for copyright infringement. *Id.*

78. See *supra* notes 51-59 and accompanying text.

79. *Vault*, 847 F.2d at 261 (stating that the RAM copy "made by Quaid was 'created as an essential step in the utilization' of *Vault*'s program").

80. *Id.*

81. 17 U.S.C. § 117(1) (1988). See *supra* note 17 for the full text of § 117.

82. *Vault*, 847 F.2d at 261.

83. *Id.*

84. *Id.*

85. See *supra* note 77 (describing CONTU's purpose for § 117).

86. CONTU REPORT, *supra* note 21, at 13.

87. An example of a RAM copy that is not an "essential step" and thus might not receive § 117 protection is where one uses another software application to decompile the program at issue and view its contents on the screen. The decompiler translates the program and displays its contents on the screen in a form readable by humans. In this form, the program exists in RAM in the same way a document exists in RAM when it is being edited by a word processing program. In this form the program cannot be used by the computer.

88. See CONTU REPORT, *supra* note 21, at 13 (stating that the rightful possessor should have the legal right to copy a program in order to use it); Kreiss, *supra* note 19, at 1525 (stating that loading a program into a computer constitutes an "essential step" under § 117).

requirement.⁸⁹ Critics assert that the ramifications of failing to receive § 117's protection can be enormous: providing a windfall of monopoly and control to copyright owners, while putting their competitors out of business.⁹⁰

III. DEATH OF INDEPENDENT SERVICE ORGANIZATIONS:
*MAI SYSTEMS, ADVANCED COMPUTER SERVICES, AND
TRIAD SYSTEMS*

The minor change of "rightful possessors" to "owners" in § 117 severely harms independent service organizations (ISOs), which are companies that repair computers without any agreement or relationship with the companies that manufacture the computer and its software.⁹¹ Such a relationship usually does not exist because the ISOs compete with the computer manufacturers for the service business.⁹² Three cases with almost identical fact patterns decided since early 1993, *MAI Systems Corp. v. Peak Computer, Inc.*,⁹³ *Advanced Computer Services of Michigan, Inc. v. MAI Systems Corp.*,⁹⁴ and *Triad Systems Corp. v. Southeastern Express Co.*,⁹⁵ have given computer manufacturers a near-perfect weapon against ISOs in the battle for customer service needs: the RAM copy.⁹⁶

89. See *supra* notes 47-70 and accompanying text (describing § 117's ownership requirement, which is often dispositive).

90. See, e.g., *Independents Vow to Fight Court Copyright Decision Affecting Computer Maintenance*, SOFTWARE INDUSTRY REP., Apr. 19, 1993, at 9 ("If upheld, this decision — *MAI Systems Corp. v. Peak Computer Inc.* — would essentially gut the multibillion dollar independent computer service industry.").

91. See *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 359 (E.D. Va. 1994) (describing the nature of an independent service organization).

92. *Id.* (stating that 90% of the market for service and maintenance of MAI computers is controlled by MAI, with the remaining 10% controlled by small independent service organizations).

93. 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994).

94. 845 F. Supp. 356 (E.D. Va. 1994).

95. 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995). After denying motions for summary judgment, the case went to trial. 36 U.S.P.Q.2d at 1030. At the close of the evidence, the trial court granted directed verdicts in favor of Triad Systems on Southeastern's fair use defense. *Id.* at 1031. Then, the jury found that Southeastern had infringed Triad Systems' copyrights. *Id.* After the verdict, the trial court granted Triad Systems' motion for preliminary injunction, which Southeastern appealed to the Ninth Circuit. *Id.* The other rulings were not entered as part of a final judgment because the trial on the issue of Southeastern's counterclaims was still pending. *Id.*

96. See Katz & Arnold, *supra* note 9, 19-20 (predicting the impact of the decisions on ISOs).

A. The Facts of the ISO Cases

In each of these cases, the plaintiff manufactured computer systems and designed software for these systems.⁹⁷ The software included operating system software, which is necessary to run any other software on the computer systems, and diagnostic software, which helps technicians service the computer system's hardware.⁹⁸ The software was conveyed to the plaintiff's customers through a license agreement that prohibited access to the software by third parties.⁹⁹ The licenses did not expressly provide that the software producer retained title to the tangible copy of the software program; that is, the diskettes containing the program.¹⁰⁰ The defendants,¹⁰¹ who were the ISOs, serviced these computer systems, in most cases without entering into license agreements with the plaintiffs.¹⁰²

97. MAI Systems Corporation was involved in two of the three cases, in one of which it was the defendant. In 1993, MAI Systems brought the first successful RAM copy case against Peak Computer. *MAI Sys.*, 991 F.2d 511, 523-24. Boosted by this victory, it sent cease and desist letters to all ISOs servicing MAI computer systems. *Advanced Computer Servs.*, 845 F. Supp. at 359-60. This action prompted the ISOs to file an antitrust and declaratory judgment action against MAI Systems in the District Court for the Eastern District of Virginia. *Id.* at 359. MAI Systems filed counterclaims for copyright infringement, based predominately on the RAM copy theory from its case against Peak Computer. *Id.* at 360-61. The third RAM Copy case, *Triad Sys.*, 31 U.S.P.Q.2d (BNA) 1239, involved different companies, but an identical fact scenario. Plaintiff Triad Systems, which manufactured computer systems and software for auto parts stores, sued Southeastern Express, an independent service organization, for the unauthorized creation of RAM copies during service of Triad computers. *Id.* at 1239-40. Note that Southeastern and the ISOs in *Advanced Computer Servs.* were represented by the same law firm. *Id.* at 1239; *Advanced Computer Servs.*, 845 F. Supp. at 358.

98. *MAI Sys.*, 991 F.2d at 513, 518 & n. 4; *Advanced Computer Servs.*, 845 F. Supp. at 360; *Triad Sys.*, 31 U.S.P.Q.2d at 1240.

99. *MAI Sys.*, 991 F.2d at 517 n.3; *Advanced Computer Servs.*, 845 F. Supp. at 361 n.6, 367; *Triad Sys.*, 31 U.S.P.Q.2d at 1241; *MAI Sys. Corp. v. Peak Computer, Inc.*, No. CV 92-1654-R, 1992 U.S. Dist. LEXIS 21829, at *4 & n.2 (N.D. Cal. Apr. 15, 1992).

100. None of the cases discussed the ownership requirement of § 117. *See supra* notes 47-70 and accompanying text (describing ownership requirement of § 117). The courts apparently assumed that a licensee does not qualify as an owner of a copy, regardless of whether the license agreement specifies that the licensee does not obtain title to the tangible copy of the program. In *Triad Sys.*, however, the Northern District of California held that early versions of the software agreements were "sales agreements whereby the software customer [became] the owner of the particular software with full rights to copy and authorize the making of copies for uses permitted under 17 U.S.C. § 117," and therefore precluded any infringement action based on the copying of these versions of the software. 31 U.S.P.Q.2d at 1241. From this fact, one can infer that the later license agreements at issue in *Triad Sys.* did not pass title to the customer.

101. *See supra* note 97 (discussing why the ISOs in *Advanced Computer Services* were the name plaintiffs).

102. In *MAI Sys.*, the ISO had one license to operate MAI Systems software on one computer system. 991 F.2d at 519. In *Advanced Computer Servs.*, one of the ISOs had a license for two of the four MAI Systems' computer systems at its facilities. 845 F. Supp. at 361 n.5. *See also Triad Sys.*, 31 U.S.P.Q.2d at 1242 n.3 (stating that the ISO may have had

B. The Copyright Infringement Claims in the Cases

The plaintiffs claimed that the ISOs directly infringed the copyrights in their software through the following activities: (i) the use of operating system software that is licensed only to one customer;¹⁰³ (ii) the use of diagnostic software that is licensed only to one customer;¹⁰⁴ and (iii) the use of unlicensed software on computers at the ISOs' facilities.¹⁰⁵ Also, one plaintiff¹⁰⁶ claimed that the ISOs induced the customers to allow the ISOs' technicians to use the plaintiff's software, which allegedly constituted contributory infringement.¹⁰⁷ The first two acts are important because they can constitute infringement only if the loading of software into RAM creates a copy of the computer program.¹⁰⁸

On the first claim, based on the loading of the operating system software into RAM, the defendants conceded that the act of turning on a machine automatically loads the operating system software into RAM.¹⁰⁹ The court in each case held explicitly that such loading into RAM creates a copy that infringes the plaintiffs' copyrights.¹¹⁰ The courts also held that the unauthorized use of diagnostic software constitutes infringement for the same reason: in using the software, the defendants created an

legitimate copies of Triad software, but it did not use those particular copies of the software to service the customer's system).

103. *MAI Sys.*, 991 F.2d at 517-19; *Advanced Computer Servs.*, 845 F. Supp. at 361; *Triad Sys.*, 31 U.S.P.Q.2d at 1242.

104. *MAI Sys.*, 991 F.2d at 518 n.4; *Advanced Computer Servs.*, 845 F. Supp. at 361; *Triad Sys.*, 31 U.S.P.Q.2d at 1244 & n.5.

105. *MAI Sys.*, 991 F.2d at 519; *Advanced Computer Servs.*, 845 F. Supp. at 361.

106. *Advanced Computer Servs.*, 845 F. Supp. at 367.

107. Contributory infringement, whereby one is held liable for another's infringement, is not expressly actionable under the Copyright Act. *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417, 434 (1984). However, the Supreme Court has held that a copyright owner can maintain an action for contributory infringement. *Id.* at 435 (citing *Kalem Co. v. Harper Bros.*, 222 U.S. 55 (1911)). Contributory infringement occurs when "one who, with knowledge of the infringing activity, induces, causes or materially contributes to the infringing conduct of another." *Gershwin Publishing Corp. v. Columbia Artists Management, Inc.*, 443 F.2d 1159, 1162 (2d Cir. 1971) (footnote omitted).

108. Conduct that does not implicate any of the exclusive rights inherent in a copyright, such as the mere use of a work, does not constitute infringement. *Sony Corp.*, 464 U.S. at 463 (Blackmun, J. dissenting) (stating that "[i]f the work is put to some use not enumerated in § 106, the use is not an infringement"); *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 155 (1975) (stating "[i]f an unlicensed use of a copyrighted work does not conflict with an 'exclusive' right conferred by the statute, it is no infringement of the holder's rights").

109. *MAI Sys.*, 991 F.2d at 518; *Advanced Computer Servs.*, 845 F. Supp. at 360; *Triad Sys.*, 31 U.S.P.Q.2d at 1243.

110. *MAI Sys.*, 991 F.2d at 519; *Advanced Computer Servs.*, 845 F. Supp. at 363; *Triad Sys.*, 31 U.S.P.Q.2d at 1243-44. For a detailed discussion of the reasoning behind these holdings, see *infra* notes 114-52 and accompanying text (analyzing why a RAM copy meets the statutory definition of a "copy" that can infringe).

infringing copy when the software was loaded into RAM.¹¹¹ The third infringing activity, involving defendant's use of unlicensed software at their facilities, was held to infringe plaintiffs' copyrights because the defendants' use of the software made unauthorized copies in RAM.¹¹² Finally, the ISOs were held liable for contributory infringement when they induced their customers to let them use the plaintiffs' software, because such use violated the license agreement and made RAM copies that violated the plaintiffs' copyrights.¹¹³ In these three cases, the defendants attempted to counter the infringement claims with several different arguments, all of which failed.

C. The Defenses Offered in the Three Cases

1. RAM Copies Are Not "Fixed" and Therefore Fail To Meet the Statutory Definition of a "Copy"

The defendants in all three of the ISO cases argued that RAM copies do not infringe the plaintiff's copyright because RAM copies are not "fixed in a tangible medium of expression,"¹¹⁴ and therefore cannot meet the statutory definition of "copy."¹¹⁵ Much of the discussion in the opinions centered on this issue and analyzed the relevant statutes.¹¹⁶

First, if the creation of a RAM copy infringes a copyright at all, it specifically infringes the copyright owner's exclusive right "to reproduce the copyrighted work in copies or phonorecords."¹¹⁷ The Copyright Act de-

111. *MAI Sys.*, 991 F.2d at 518 n.4; *Triad Sys.*, 31 U.S.P.Q.2d at 1244 n. 5. The only difference between the RAM copy of the operating system software and the RAM copy of the diagnostic software is that the diagnostic software is not loaded automatically into RAM when the computer is turned on. *MAI Sys.*, 991 F.2d at 518 n.4.

112. *MAI Sys.*, 991 F.2d at 519; *Advanced Computer Servs.*, 845 F. Supp. at 364.

113. *Advanced Computer Servs.*, 845 F. Supp. at 367.

114. See *MAI Sys.*, 991 F.2d at 518; *Advanced Computer Servs.*, 845 F. Supp. at 362-63; *Triad Sys.*, 31 U.S.P.Q.2d at 1242-44. A "tangible medium of expression" is the physical object that contains the copyrighted work of authorship. H.R. REP. NO. 1476, *supra* note 30, at 52-53, reprinted in 1976 U.S.C.C.A.N. at 5665. For example, books, paintings, and videotapes are all "tangible media of expression" containing stories, pictures, and movies, which are the intangible property that is copyrighted. *Id.* Copyright protection does not exist for works that are not "fixed," that is, do not exist in any physical object. *Id.* In other words, a folk tale that is told and retold through generations but never written on paper or recorded in any way does not receive copyright protection. See *id.*

115. *MAI Sys.*, 991 F.2d at 517; *Advanced Computer Servs.*, 845 F. Supp. at 362; *Triad Sys.*, 31 U.S.P.Q.2d at 1243-44.

116. *MAI Sys.*, 991 F.2d at 517-19; *Advanced Computer Servs.*, 845 F. Supp. at 362-64; *Triad Sys.*, 31 U.S.P.Q.2d at 1243-44.

117. 17 U.S.C. § 106(1) (1988). See also H.R. REP. NO. 1476, *supra* note 30, at 61, reprinted in 1976 U.S.C.C.A.N. at 5675 ("[T]he right 'to reproduce the copyrighted work in copies or phonorecords' means the right to produce a material object in which the work is duplicated, transcribed, imitated, or simulated.").

finer "copies" as "material objects . . . in which a work is fixed."¹¹⁸ A work is "fixed" when it is stable enough to be perceived or reproduced for more than a temporary period.¹¹⁹ The courts in the ISO cases applied these definitions, and determined that they cover a version of a computer program existing in RAM.¹²⁰

A review of the case law examining this issue before *MAI Systems*, the first ISO case, reveals little discussion on exactly how a RAM copy meets the statutory definitions of "copies" and "fixed."¹²¹ None of these cases applied the § 101 definitions of "copies" or "fixed," but instead relied on either the conclusions of CONTU embodied in its Final Report,¹²² or on the conclusion of the leading commentator on copyright law,¹²³ or failed to cite to any authority.¹²⁴

The CONTU Report reveals that a majority of the commission agreed that a RAM copy meets the statutory definition and can infringe.¹²⁵ The

118. 17 U.S.C. § 101 (1988) (stating that copies are "material objects, other than phonorecords, in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device"). Congress added this definition in the 1976 revision to the Copyright Act in part to avoid the problem posed by case law holding that a work that cannot be perceived by humans does not qualify as a copy. See H.R. REP. NO. 1476, *supra* note 30, at 52, *reprinted in* 1976 U.S.S.C.A.N. at 5665 (describing the purpose behind § 101's definition of "copies").

119. 17 U.S.C. § 101 (1988) ("A work is 'fixed' in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.").

120. *MAI Sys.*, 991 F.2d at 517-18; *Advanced Computer Servs.*, 845 F. Supp. at 362; *Triad Sys.*, 31 U.S.P.Q.2d at 1243-44; see *infra* notes 131-54 and accompanying text (analyzing how these cases apply the statutory definition of "copies" to RAM copies).

121. See *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255, 261 (5th Cir. 1988); *ISC-Bunker Ramo Corp. v. Altech, Inc.*, 765 F. Supp. 1310, 1332 (N.D. Ill. 1990); *Bly v. Banbury Books, Inc.*, 638 F. Supp. 983, 985 (E.D. Pa. 1986); *Apple Computer, Inc. v. Formula Int'l, Inc.*, 594 F. Supp. 617, 622 (C.D. Cal. 1984); *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33, 35 & n.6 (D. Mass. 1984).

122. *Vault*, 847 F.2d at 260; *Micro-Sparc*, 592 F. Supp. at 34-35; see also *infra* note 125 (discussing CONTU's conclusion that RAM copies meet the statutory definition).

123. *ISC-Bunker Ramo*, 765 F. Supp. at 1332.

124. *Bly*, 638 F. Supp. at 985; *Apple Computer*, 594 F. Supp. at 622. While *Bly* discussed whether RAM copies were copies, the court did not need to decide the issue because defendants conceded infringement. *Bly*, 638 F. Supp. at 985. Likewise, the discussion of the issue in *Apple Computer* is *dicta*. See *MAI Sys.*, 991 F.2d at 519 (recognizing "that this language [in *Apple Computer*] is not dispositive").

125. CONTU REPORT, *supra* note 21, at 22. The report states:

The text of the new copyright law makes it clear that the placement of a copyrighted work into a computer—or, in the jargon of the trade, the 'inputting' of it—is the preparation of a copy. This may be ascertained by reading together the definitions of *copies* and *fixed* found in section 101.

Id.

majority did, however, indicate that a RAM copy of a program may cease to be a "copy" under the statute when each individual instruction is inserted into the computer's processor.¹²⁶ At this point, the program becomes the workings of a machine, which is subject matter not protected by copyright.¹²⁷ Commissioner Hersey dissented on this issue, arguing that RAM copies do not communicate with humans but rather with machines, and therefore should cease being copies under the statute when they become part of a machine.¹²⁸

Interestingly, CONTU's position contradicts the apparent intent of the drafters of the definitions of "copies" and "fixed"; the drafters apparently intended to exclude RAM copies from these definitions in the legislative history to the 1976 Act.¹²⁹ CONTU argued that this language was incorrect and should not be followed because the enacted definition of "fixed" is clear and unambiguous.¹³⁰ No litigant or court has mentioned this language in any reported case in discussing whether RAM copies are fixed.

In *MAI Systems*, the Ninth Circuit rejected the ISO's argument that RAM copies are not "fixed" and therefore are not "copies."¹³¹ The court

126. *Id.* The report further states:

When a program is copied into the memory of a computer, it still exists in a form from which a human-readable version may be produced. That is, the copy in the computer's memory may be duplicated, just as a version listed on paper or coded on magnetic tape may be. Only when the program is inserted—instruction by instruction—into the processing element of the computer and electrical impulses are sent through the circuitry of the processor to initiate work is the ability to copy lost.

Id.

127. *Id.* Copyright protection subsists only in original works of authorship and expressly not in any "idea, procedure, process, system, method of operation, concept, principle, or discovery." 17 U.S.C. § 102(a)-(b) (1988). Works exhibiting these characteristics, such as machines, are protected by patents. *See, e.g., Baker v. Selden*, 101 U.S. 99, 102 (1879) (stating that claims to inventions or discoveries are the "province of letters-patent, not of copyright").

128. *See* CONTU REPORT, *supra* note 21, at 33 (stating that a computer program should cease being a copy "at the moment of the program's transformation, by whatever present or future technique, to a mechanical capability").

129. H.R. REP. NO. 1476, *supra* note 30, at 53, *reprinted in* 1976 U.S.C.C.A.N. at 5666 (concluding that "the definition of 'fixation' would exclude from the concept purely evanescent or transient reproductions such as those projected briefly on a screen, shown electronically on a television or other cathode ray tube, or *captured momentarily in the 'memory' of a computer*") (emphasis added).

130. *See* CONTU REPORT, *supra* note 21, at 22 & n.111 (stating "[b]ecause works in . . . [RAM] may be repeatedly reproduced, they are fixed and, therefore, are copies. . . . Insofar as a contrary conclusion is suggested in . . . [the House] report . . . , this should be regarded as incorrect and should not be followed, since legislative history need not be perused in the construction of an unambiguous statute").

131. 991 F.2d 511, 518, *cert. dismissed*, 114 S. Ct. 671 (1994).

relied on a factual analysis and the prior law regarding RAM copies.¹³² Most damaging to the ISO's argument was that its technicians could view a "system error log," which is part of the operating system software, while the software is in RAM.¹³³ This fact, uncontroverted by the ISO, convinced the court that the RAM copy of the software could be "perceived, reproduced, or otherwise communicated," and therefore met the fixation requirements.¹³⁴

The Eastern District of Virginia provided a more explicit analysis of the fixation of RAM copies in *Advanced Computer Services v. MAI Systems*.¹³⁵ First, the court clarified that the definition of "fixed" under the statute does not require "absolute permanence," but only enough so that the work can be "perceived, reproduced, or otherwise communicated for a period of more than transitory duration."¹³⁶ Next, the court rejected the ISO's argument that, because RAM is not a "material object" but rather a "collection of positive and negative charges," programs loaded into it cannot be "copies," which are defined as "material objects" under the statute.¹³⁷ According to the court, this conclusion runs contrary to the Copyright Act's protection of computer programs, embodied in the 1980 amendments, and the definition of the subject matter of copyright, which allows copyright protection for works requiring the aid of a machine or device to be perceived.¹³⁸ More convincingly, the court pointed out that RAM is finite and takes up space; that is, a copy of a program in RAM reduces the amount of RAM available for other programs and data, and therefore is a material object.¹³⁹

The ISOs, using the same argument made in *MAI Systems*, argued that a RAM copy is too transient and ephemeral to be fixed because a RAM

132. *Id.* at 518-19. The court in *MAI Sys.* cited *Apple Computer, Inc. v. Formula Int'l, Inc.*, 594 F. Supp. 617 (C.D. Cal. 1984); *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988); 2 NIMMER ON COPYRIGHT § 8.08 (1989), and the CONTU REPORT, *supra* note 21. *See id.* at 518-19. The court acknowledged that these authorities do not specify whether the copy created is in RAM, in ROM, or on a magnetic disk. *Id.* at 519.

133. *Id.* at 518.

134. *Id.*

135. *See* 845 F. Supp. 356, 362-63 (E.D. Va. 1994).

136. *Id.* at 362-63.

137. *Id.* at 363; *see also* 17 U.S.C. § 101 (1988) (" 'Copies' are *material objects* . . . in which a work is fixed") (emphasis added). Note that this argument was not made in *MAI Sys.* *See MAI Sys.*, 991 F.2d at 511.

138. *Advanced Computer Servs.*, 845 F. Supp. at 363 (quoting 17 U.S.C. § 102(a) (1988)). Section 102(a) provides that "[c]opyright protection subsists . . . in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." 17 U.S.C. § 102(a) (1988). This section repeats nearly verbatim the definition of "fixed" in § 101. *See id.* §§ 101-102.

139. *Advanced Computer Servs.*, 845 F. Supp. at 363 n.8.

copy disappears when the computer loses power.¹⁴⁰ This argument was rejected for two reasons. First, as in *MAI Systems*, the Eastern District of Virginia found that valuable information can be obtained from a RAM copy by viewing the computer's screen or a paper printout.¹⁴¹ Second, this argument only shows that some RAM copies, those in which the power is cut off soon after the program is loaded into RAM, may not be sufficiently fixed.¹⁴² The copyright infringement claims in *Advanced Computer Services*,¹⁴³ however, did not concern these short-lived RAM copies; rather, the claims targeted the creation of those copies that were used by the ISO's technicians when they serviced the computers.¹⁴⁴ In the court's view, these copies, which did communicate information to the technicians, clearly were fixed.¹⁴⁵ The Eastern District of Virginia relied on several cases to support this conclusion,¹⁴⁶ including *MAI Systems*.¹⁴⁷

140. *Id.* at 363.

141. *Id.* Another example, not offered by the court, is helpful on this point. One could type an entire article or memorandum into a computer using a word processing program without ever saving that document to the magnetic disk drive for permanent storage. During that time, one could produce multiple copies of the document on paper, and read it from the screen. At all times this document would exist only in the computer's RAM.

142. *Id.* (noting that "MAI's copyright infringement claim is not aimed at situations where the power to the computer is turned off and the RAM erased within a second of the completion of loading," but rather it is aimed at those instances where the computer remains on for minutes or longer).

143. This argument also would apply to the RAM copies in *MAI Sys.* and *Triad Sys.*

144. *Advanced Computer Servs.*, 845 F. Supp. at 363.

145. *Id.*

146. The court cited *Vault Corp. v. Quaid Software, Ltd.*, 847 F.2d 255 (5th Cir. 1988), *ISC-Bunker Ramo Corp. v. Altech, Inc.*, 765 F. Supp. 1310 (N.D. Ill. 1990), *Apple Computer, Inc. v. Formula Int'l, Inc.*, 562 F. Supp. 775 (C.D. Cal. 1983), *aff'd*, 725 F.2d 521 (9th Cir. 1984), and *Micro-Sparc, Inc. v. Amtype Corp.*, 592 F. Supp. 33 (D. Mass. 1984). It distinguished *Lewis Galoob Toys, Inc. v. Nintendo of America, Inc.*, 780 F. Supp. 1283 (N.D. Cal. 1991) (holding that audiovisual displays created by videogame enhancers do not qualify as derivative works of the original videogame and, alternatively, are fair use of the copyrighted video game), *aff'd*, 964 F.2d 965 (9th Cir. 1992), *cert. denied*, 113 S. Ct. 1582 (1993). The ISOs cited *Lewis Galoob Toys* on the grounds that the decision concerned fair use of a copyrighted work and not RAM copies. See *Advance Computer Servs.*, 845 F. Supp. at 364 n.9.

147. 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994). The ISO offered one final argument, that "copying" was a term of art in the computer industry that does not include loading programs into RAM. *Advanced Computer Servs.*, 845 F. Supp. at 364. The ISO pointed out that if "copying" includes loading software into RAM, then valid software licensees violate their license agreements each time they use the software, because the license agreement prohibits "copying" of the software. *Id.* The court rejected this argument on the basis that "copying" is defined by the Copyright Act, and not by industry usage or license agreements. *Id.*

The court reached the correct conclusion on this argument, and did not have to answer the ISO's concern that valid licensees violate their license agreements, but the example raises the specter of the software user's rights under § 117. See *supra* notes 47-70 and accompanying text. The valid licensees would not breach their license agreements, but not

In *Triad Systems v. Southeastern Express*,¹⁴⁸ the Northern District of California rejected additional arguments from an ISO as to why RAM copies are not “fixed.”¹⁴⁹ First, the ISO argued that the RAM copy of the operating system software was not fixed because it made no representations of its contents on the computer’s video display screen, and thus did not communicate information to the user.¹⁵⁰ The court rejected this position because it contradicts those cases that hold that the computer programs that do not interact with the user, such as operating system software, are protected by copyright law as much as interactive programs like word processors.¹⁵¹ The court also rejected the standard argument that RAM copies do not reside in RAM long enough to be fixed, holding that the short-lived RAM copies are the “functional equivalents” of the longer-lasting copies from which one can perceive, reproduce, or communicate the contents of the program.¹⁵²

Thus, the notion that RAM copies do not meet the statutory definitions of “fixed” and “copies” appears untenable. For ISOs, and potentially

because of § 117. They would have either an express or implied license to make those RAM copies that necessarily are made when they use the computer program. See Kreiss, *supra* note 19, at 1539 (describing how licensees who “do not obtain immunity by means of § 117 . . . are protected by contract”). This license would almost certainly be implied from the right to use the program that is granted in every software license agreement. *Id.*

148. 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994).

149. *Id.* at 1243-44. Note that this court was bound by the Ninth Circuit’s decision in *MAI Systems*. The Ninth Circuit, in affirming the Northern District of California’s preliminary injunction in favor of Triad Systems, agreed, without much discussion, with the district court’s analysis of whether RAM copies infringe. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1030 & n.4 (9th Cir. 1995).

150. *Triad Sys.*, 31 U.S.P.Q.2d at 1243.

151. *Id.* (citing *Apple Computer v. Formula Int’l*, 725 F.2d 521, 525 (9th Cir. 1984)). Other courts have adopted this view. See, e.g., *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1251-53 (3d Cir. 1983) (holding that “an operating system program is not *per se* precluded from copyright”), *cert. dismissed*, 464 U.S. 1033 (1984); *GCA Corp. v. Chance*, 217 U.S.P.Q. 718 (N.D. Cal. Sept. 1, 1982); *Tandy Corp. v. Personal Micro Computers, Inc.*, 524 F. Supp. 171 (N.D. Cal. 1981).

152. *Triad Sys.*, 31 U.S.P.Q.2d at 1243. The ISO also argued that because the Triad computer only copied portions of the operating system software into RAM at any one time, the copying into RAM did not illicitly appropriate, or infringe, the copyrighted operating system software. *Id.* at 1243-44. This argument relies on the requirement in copyright law that a defendant’s copying must appropriate a substantial portion of the copyrighted work. *Arnstein v. Porter*, 154 F.2d 464, 473 (2d Cir. 1946) (“The question . . . is whether defendant took from plaintiff’s work [] so much of [that which makes a work valuable] . . . that defendant wrongfully appropriated something which belongs to the plaintiff”), *cert. denied*, 330 U.S. 851 (1947). The court rejected this argument without much analysis, holding that the whole of a work need not be copied for infringement to be found. *Triad Sys.*, 31 U.S.P.Q.2d at 1243-44 (relying on *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 551 (1985), which held that the determination of illicit appropriation depends on both the amount and substantiality of the material defendant copied).

others, the effects of losing this argument are severe.¹⁵³ However, the ISOs have advanced other arguments which may, if successful, alleviate the problem.¹⁵⁴

2. *RAM Copies Are Non-Infringing Under § 117(1).*

Just as CONTU intended, an obvious solution to the RAM copy problem is to interpret § 117, which defines as non-infringing those copies made "as [] essential step[s]" in the use of that program, to include the making of a RAM copy.¹⁵⁵ Unfortunately, Congress' only change to § 117 to the CONTU recommended language — replacing "rightful possessors" with "owners,"¹⁵⁶ — eliminates nearly all software users from its protection, including users of the software in the ISO cases.¹⁵⁷

The courts in the ISO cases have given this issue little attention.¹⁵⁸ In *MAI Systems*, the Ninth Circuit ruled in a footnote that customers do not qualify as "owners" because they license the software.¹⁵⁹ In *Advance Computer Services*,¹⁶⁰ the Eastern District of Virginia only mentioned § 117 in its discussion of the contributory infringement claim,¹⁶¹ noting

153. See *infra* notes 249-253 and accompanying text. The "others" who may be affected by the RAM copy problem include users of the Internet, online services, and computer bulletin boards, because the activities involved in using these services necessarily create RAM copies of the information on the service in the user's personal computer. INFORMATION INFRASTRUCTURE TASK FORCE, DEPARTMENT OF COMMERCE, GREEN PAPER: INTELLECTUAL PROPERTY AND THE NATIONAL INFORMATION INFRASTRUCTURE—A PRELIMINARY DRAFT OF THE REPORT OF THE WORKING GROUP ON INTELLECTUAL PROPERTY RIGHTS 65 n.205 (1994) [hereinafter NII GREEN PAPER]. These activities include "loading a work into a computer, scanning a printed work into a digital file, uploading or downloading a work between a user's computer and a BBS or other server, and transmitting a work from one computer to another" *Id.* (citing *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994) and *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356 (E.D. Va. 1994)). *Contra* Jessica Litman, *The Exclusive Right to Read*, 13 CARDOZO ARTS & ENT. L. J. 29, 39-42 (1994) (criticizing the conclusion of the NII GREEN PAPER, and arguing that the law is not settled on the issue of RAM copies and that the better result holds that RAM copies are too transitory to infringe).

154. See *infra* text accompanying notes 187-243 (describing the ISOs' alternative arguments).

155. 17 U.S.C. § 117(1) (1988); see also *supra* notes 42-90 and accompanying text (discussing the elements of § 117).

156. See *supra* notes 33-41 and accompanying text.

157. This includes both the valid licensees of the program, such as MAI Systems' and Triad Systems' customers, as well as the ISO's technicians, who could be "authorized" by the customer to make the RAM copy in using the software to service the customer's machine. 17 U.S.C. § 117 (1988).

158. See *supra* notes 60-62 and accompanying text; Arriola, *supra* note 9, at 419-20.

159. *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 518 n.5 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 67 (1994).

160. *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356 (E.D. Va. 1994).

161. See *supra* note 106 and accompanying text.

that the customer's making of a RAM copy could be an underlying act of infringement because, as a licensee, the customer would not be shielded by § 117.¹⁶² Finally, in *Triad Systems*,¹⁶³ the Northern District of California held that § 117 did not apply to the ISO because it did not "own" the customer's software.¹⁶⁴

Notably, the courts in these cases did not rely on an express clause in the license agreement specifying that the title to the copy of the computer program did not pass to the customer.¹⁶⁵ The courts ruled, *sub silentio*, that a license agreement does not make the licensee an "owner of a copy of a computer program" for the purposes of § 117.¹⁶⁶ Thus, § 117 offers little protection to the software user accused of infringement through the creation of RAM copies. Only a valid license agreement, which is something the ISOs did not have, will provide the same protection as § 117 from suits based on infringing RAM copies.¹⁶⁷

3. Copyright Misuse by the Software Producer

Copyright misuse is a copyright infringement defense of relatively recent vintage.¹⁶⁸ Recognized and upheld first by the Fourth Circuit in *Lasercomb America, Inc. v. Reynolds*,¹⁶⁹ the defense's viability and application remain uncertain.¹⁷⁰ Currently, as defined in *Lasercomb*, a misuse defense will bar a claim for copyright infringement when the copyright

162. *Advanced Computer Services*, 845 F. Supp. at 367.

163. 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994).

164. *Id.* at 1242 n.4.; *see supra* note 61 (discussing why this rationale is flawed but its result is correct). Note that the Ninth Circuit affirmed this conclusion without discussion. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1030 (9th Cir. 1995); *see also supra* note 95 (describing the procedural posture of the Ninth Circuit's review of *Triad Sys.*).

165. *See supra* note 99 and accompanying text.

166. 17 U.S.C. § 117 (1988).

167. *But see supra* note 102 (noting that some of the ISOs had valid licenses, but these licenses did not authorize the infringing conduct).

168. For a thorough discussion of the history and nature of the copyright misuse defense, see Ramsey Hanna, Note, *Misusing Antitrust: The Search for Functional Copyright Misuse Standards*, 46 STAN. L. REV. 401 (1994) (describing the history of the misuse defense, and arguing that the copyright misuse defense should not be tied to establishing an antitrust violation); Philip Abromats, Note, *Copyright Misuse and Anticompetitive Software Licensing Restrictions: Lasercomb America, Inc. v. Reynolds*, 52 U. PITT. L. REV. 629 (1991) (arguing that the Fourth Circuit's application of the misuse doctrine to remedy an anticompetitive clause in a license agreement went too far); Christina Ambrosio & Roni Schneider, Note, *Copyright Misuse . . . Getting Defensive: Lasercomb America, Inc., v. Reynolds*, 6 ST. JOHN'S J. LEGAL COMMENT 181 (1990) (affirming the validity of the copyright misuse defense, and proposing more definite standards for its application).

169. 911 F.2d 970 (4th Cir. 1990).

170. *See Hanna, supra* note 168, at 403.

owner uses his or her copyright in violation of the public policy underlying the copyright.¹⁷¹

Relying predominately on *Lasercomb*,¹⁷² the ISOs in *Advance Computer Services*¹⁷³ argued that the software producer had misused the copyright in its software to violate the antitrust laws and public policy.¹⁷⁴ Although not explicit in the decision, the ISOs apparently based their defense, and their corresponding antitrust claims, on the ability of the software producer to prevent ISOs without license agreements from competing in the market for servicing their customers' computer systems and software because such use necessarily creates RAM copies that infringe the software.¹⁷⁵

171. *Lasercomb*, 911 F.2d at 978 (noting that whether copyright misuse has occurred is a question of whether a "copyright is being used in a manner violative of the public policy embodied in the grant of a copyright"). In *Lasercomb*, the plaintiff, a software developer, created a computer program that allowed a designer to create templates used by lasers to produce steel rule die. *Id.* at 971. The plaintiff licensed this software to defendants with a term in the license agreement that prevented the defendants from developing its own computer-assisted die making software for 100 years. *Id.* at 972-73. Defendants then created a computer program nearly identical to the plaintiff's program. *Id.* at 971. The plaintiff brought multiple claims against defendants, including copyright infringement. *Id.* at 972.

The Fourth Circuit held that the defendants clearly had infringed the copyright in plaintiff's program. *Id.* However, the Fourth Circuit barred the plaintiff's infringement claim by holding that the term of the license agreement preventing defendants from producing competing software constituted copyright misuse. *Id.* at 979. In recognizing the copyright misuse defense, the Fourth Circuit looked to patent law's recognition of the misuse defense which had been upheld by the Supreme Court. *Id.* at 973 (citing *United States Gypsum Co. v. National Gypsum Co.*, 352 U.S. 457 (1957)). The Fourth Circuit examined the history behind both patents and copyrights, and determined that the policies supporting each parallel the other. *Id.* at 974-76. The court held that the license agreement's broad restriction on developing competing software was an attempt to gain control over the idea behind its computer program, and consequently did not fall under the umbrella of copyright protection. *Id.* at 978 & n.19. The Fourth Circuit also asserted two other important points on copyright misuse: (i) that while using a copyright to violate the antitrust laws would be clear copyright misuse, the misuse need not rise to the level of an antitrust violation in order to bar an infringement claim; *id.* at 978; and (ii) that, like patent misuse, the defense is available even if the misuse does not harm the particular defendants. *Id.* at 979. Nevertheless, the type and level of misuse needed to support the defense, which does not amount to an antitrust violation, remains unclear. See generally Hanna, *supra* note 168, at 416-18 (arguing that the copyright misuse defense should not be tied to establishing an antitrust violation).

172. *Lasercomb*, 911 F.2d at 970.

173. 845 F. Supp. 356 (E.D. Va. 1994).

174. *Id.* at 367. Although, at the time of MAI Systems' actions against Peak Computer and other ISOs, MAI Systems no longer built computers, it did remain in the market for servicing its computers. *Id.* at 359. It controlled approximately 90% of the market for servicing MAI Systems computers. *Id.*

175. See, e.g., *id.* at 367 (stating that MAI Systems used its copyrights "to prevent . . . [the ISOs] from performing the normal maintenance of MAI computers"); *Id.* at 370 (stating "[s]pecifically, . . . [the ISOs] assert that MAI's requirement that . . . [the ISOs] refrain

The Eastern District of Virginia rejected the defense, on two grounds.¹⁷⁶ First, in rejecting the ISOs' antitrust claims, the District Court also rejected the misuse claims based on violations of the antitrust laws.¹⁷⁷ Second, the District Court rejected the ISOs' claim that MAI Systems' use of its copyright violated public policy because MAI Systems' license agreements did not contain restrictions to prevent the development of competing software, like those in *Lasercomb*, and because MAI Systems had a right to recoup the investment in its copyrighted software through higher service fees.¹⁷⁸

Likewise, in *Triad Systems*,¹⁷⁹ the Northern District of California rejected an ISO's claim that the software manufacturer misused its copyright to leverage its position in the computer maintenance market.¹⁸⁰ As in *Advanced Computer Services*,¹⁸¹ the Northern District of California relied on the ISO's failure to prove its antitrust claims and the fact that copyright entitles the owner to enforce restrictive licensing agreements.¹⁸² Both *Advanced Computer Services* and *Triad Systems* relied on the Fourth Circuit's decision in *Service & Training, Inc. v. Data General Corp.*,¹⁸³ decided after *Lasercomb*. In *Data General*, the Fourth Circuit rejected an ISO's antitrust and copyright misuse claims based on the computer hardware and software manufacturer's refusal to sell or license diagnostic software to all customers, including ISOs.¹⁸⁴ In rejecting the misuse defense, the *Data General* court relied on the failure of the ISO's antitrust claims and on the conclusion that the software developer was

from loading MAI's copyrighted software constitutes an attempt to monopolize the MAI computer service market"); see also *supra* notes 114-54 and accompanying text (discussing why RAM copies infringe the copyright in the computer software).

176. *Advanced Computer Servs.*, 845 F. Supp. at 367.

177. *Id.* at 367-70.

178. *Id.* at 367. MAI Systems can charge higher fees in order to recoup its investment in the development of diagnostic software because it holds the exclusive license to the diagnostic software needed to service MAI computers. See *id.*

179. 31 U.S.P.Q.2d (BNA) 1239 (N.D. Cal. 1994), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995).

180. *Id.* at 1249. The Ninth Circuit affirmed the district court's copyright misuse analysis with little discussion. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1033-34 (9th Cir. 1995); see also note 95 (describing the procedural posture of the Ninth Circuit's review of *Triad Sys.*).

181. 845 F. Supp. at 367.

182. *Triad Sys.*, 31 U.S.P.Q.2d at 1249.

183. 963 F.2d 680 (4th Cir. 1992).

184. *Id.* The decision refers to the service organization as a third-party maintenance company or TPM. *Id.* at 682. A TPM is the same as an ISO. *Id.*

within its exclusive rights under copyright to license its diagnostic software selectively.¹⁸⁵

Thus, the viability of a copyright misuse defense to an infringement action based on copying into RAM is suspect. Judicial uncertainty about the precise contours and requirements of the defense, and reluctance by the courts to impose antitrust liability on a copyright owner for actions taken pursuant to her rights under copyright law create this suspicion.¹⁸⁶ So long as copyright law provides a software producer with rights to prevent the unauthorized creation of RAM copies, actions taken to enforce these rights will not be a misuse of copyright.

4. Fair Use

Fair use is the broadest and most important limitation on the exclusive rights granted to a copyright owner.¹⁸⁷ First codified in the 1976 revision to the Copyright Act,¹⁸⁸ the judicial doctrine is an "equitable rule of reason,"¹⁸⁹ which examines the particular facts and circumstances of the defendant's use to determine whether that use should be allowed notwithstanding its infringement.¹⁹⁰ A use will be considered fair when it promotes the policies underlying the grant of a copyright.¹⁹¹

185. *Id.* at 686, 690. The Fourth Circuit stated that "Data General [the copyright owner,] may lawfully license [its software] to whomever it chooses." *Id.* at 686. The court further stated that "[N]o evidence [exists] that Data General did anything beyond limiting the use of the software to repair and maintenance of specific computer hardware, activity that is protected as an exclusive right of a copyright owner." *Id.* at 690.

186. See, e.g., *Triad Sys.*, 31 U.S.P.Q.2d at 1252 & n.9 (rejecting the ISO's antitrust and unfair trade practices claims because the software producer's RAM copy infringement position was a "good faith opinion[] regarding the state of the law"); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 368-70 (E.D. Va. 1994) (rejecting ISOs' antitrust claims on grounds that MAI Systems' activity was "within . . . [its] discretion to protect its copyrighted works," and where MAI Systems was "simply attempting to protect the rights accruing to it as the holder of valid copyrights in its software").

187. See H.R. REP. NO. 1476, *supra* note 30, at 65, *reprinted in* 1976 U.S.C.C.A.N. 5659, 5678 (stating that fair use is "one of the most important and well-established limitations on the exclusive right of copyright owners").

188. *Id.*

189. *Id.*; see also *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 560 (1985); *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417, 448 & n.31 (1984).

190. *Harper & Row*, 471 U.S. at 549.

191. *Id.* These policies are enumerated in the United States Constitution, Art. I § 8, cl. 8 ("to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries"). Book and movie reviews serve as classic examples of fair use. See 17 U.S.C. § 107 (1988) (listing "criticism, comment, news reporting, teaching . . . , scholarship, or research" as examples of fair use). Although critics often copy the most important parts of the work they review, such copying is excused because it promotes the discussion and consideration of the works by the public. *Harper & Row*, 471 U.S. at 550 (describing how a "reviewer may fairly cite largely from the original work, if his design be really and truly to use the

Section 107 of the Copyright Act provides a statutory framework for the fair use analysis, listing four non-exclusive factors required by the statute to be considered.¹⁹² The factors enumerated concern the purpose and nature of the infringing use,¹⁹³ the nature of the copyrighted work, the sum and substance of what the defendant's use takes from the copyrighted work, and how the defendant's use harms the potential market and value of the copyrighted work.¹⁹⁴

In both *Advanced Computer Services* and *Triad Systems*, the ISOs claimed that the making of RAM copies constituted a fair use of the operating system software.¹⁹⁵ In both *Advanced Computer Services* and *Triad Systems*, the trial court rejected the ISOs' fair use defense.¹⁹⁶ Examining the analyses performed by both courts gives insight into what

passages for the purposes of fair and reasonable criticism") (quoting *Folsom v. Marsh*, 9 F. Cas. 342, 344-45 (C.C. Mass. 1841) (No. 4901)).

192. 17 U.S.C. § 107 (Supp. IV 1992). The statute provides:

§ 107. Limitations on exclusive rights: Fair Use

Notwithstanding the provisions of section 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include —

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.

Id. This codification was "intended to restate the present judicial doctrine of fair use, not to change, narrow, or enlarge it in any way." H.R. REP. NO. 1476, *supra* note 30, at 66, reprinted in 1976 U.S.C.C.A.N. 5659, 5680. Thus, pre-1976 fair use case law remains instructive on current fair use determinations. See *Harper & Row*, 471 U.S. at 560 (quoting H.R. REP. NO. 1476).

193. Fair use is a defense to copyright infringement raised by the alleged infringer. *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1177 (1994); *Harper & Row*, 471 U.S. at 561.

194. 17 U.S.C. § 107 (1988).

195. *Advanced Computer Servs. v. MAI Sys., Inc.*, 845 F. Supp. 356, 364 (E.D. Va. 1994); *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239, 1244 (N.D. Cal. Mar. 18, 1994).

196. *Advanced Computer Services*, 845 F. Supp. at 366 (granting summary judgment in favor of the copyright owner on the fair use issue); *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1031 (9th Cir. 1995) (noting that the trial court granted directed verdicts for Triad Systems on the issue of fair use at the close of the evidence). In *Triad Systems*, the Northern District of California analyzed the fair use issue

may be the best solution to the RAM copy problem. Three separate infringing uses of computer software are claimed to be fair use in these two cases: (i) the making of RAM copies in the use of operating system software; (ii) the making of RAM copies in the use of diagnostic software; and (iii) the making of archival copies on magnetic disk and tape during routine maintenance of the computer systems,¹⁹⁷ the last of which was considered in *Triad Systems* only.¹⁹⁸ In *Advanced Computer Services*, the Eastern District of Virginia treated the first two uses together,¹⁹⁹ while in *Triad Systems*, the Northern District of California analyzed each separately, yet still concluded that neither use qualified as fair use.²⁰⁰

a. The Purpose and Character of the Use

This factor examines the infringing use.²⁰¹ In general, a commercial use of a work weighs against a finding of fair use,²⁰² while a non-profit or educational use, or one of those uses listed in the first paragraph of § 107,²⁰³ generally weighs in favor of fair use.²⁰⁴ In both *Advanced Computer Services* and *Triad Systems*, the district courts found that making RAM copies of the operating system software and diagnostic software in the course of servicing a customer's machine was a commercial use.²⁰⁵

In *Advanced Computer Services*, the Eastern District of Virginia applied the so-called "Sony presumption" to the commercial use, finding

at the summary judgment stage, refusing to grant summary judgment in favor of *Triad Systems* and against fair use. *Triad Sys.*, 31 U.S.P.Q.2d at 1245.

197. This last use does not involve RAM copies and will not be discussed in this Comment.

198. *Advanced Computer Servs.*, 845 F. Supp. at 364; *Triad Sys.*, 31 U.S.P.Q.2d at 1245.

199. *Advanced Computer Servs.*, 845 F. Supp. at 364-66.

200. *Triad Sys.*, 31 U.S.P.Q.2d at 1245 (finding that use of the diagnostic software was not fair use); *Triad Sys.*, 36 U.S.P.Q.2d at 1032-33 (affirming district court's rejection of fair use defense on use on operating software).

201. Fair use analysis should only be used after a finding of infringement because it is an affirmative defense. *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1177 (1994).

202. *Campbell*, 114 S. Ct. at 1174; *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417, 449 (1984); *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1521 (9th Cir. 1992); *Triad Sys.*, 31 U.S.P.Q.2d at 1247; *Advanced Computer Servs.*, 845 F. Supp. at 365. The *Campbell* court made clear, however, that the first statutory factor "call[s] for no hard evidentiary presumption" that cuts off the fair use analysis after a finding of fair use. 114 S. Ct. at 1174.

203. These uses include "criticism, comment, news reporting, teaching . . . , scholarship, or research." 17 U.S.C. § 107 (1988).

204. *Sony*, 464 U.S. at 449; *Campbell*, 114 S. Ct. at 1171 (holding that analysis of this factor "may be guided by the examples given in the preamble to § 107").

205. *Advanced Computer Servs.*, 845 F. Supp. at 365; *Triad Sys.*, 31 U.S.P.Q.2d at 1247 (N.D. Cal.); *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1033 (9th Cir. 1995).

that this factor weighed against fair use.²⁰⁶ It also rejected the ISOs' claim that the use provides a "public benefit" in providing MAI customers with inexpensive service alternatives.²⁰⁷

In *Triad Systems*, at the summary judgment stage, the Northern District of California found that the use of operating system software in RAM is "incidental" to the servicing of the customer's machine, and therefore the ISO does not derive a significant amount of commercial gain from this use.²⁰⁸ Also, unlike the Eastern District of Virginia, the Northern District of California accepted the ISOs' claim that such a use provides the public benefits of choice and price competition.²⁰⁹ Thus, the commercial nature of this use does not weigh against a finding of fair use.²¹⁰ However, the use of a customer's diagnostic software does provide the ISO with commercial gain because it receives the benefit of the program without licensing for the software.²¹¹ Therefore, the Northern District of California found that the use of this software weighed against fair use.²¹² Later, however, the court rejected the ISO's fair use defense and granted a directed verdict and preliminary injunction in favor of Triad Systems on the fair use issue.²¹³ In its opinion affirming this decision, the Ninth Circuit relied heavily on the commercial nature of the use in rejecting the fair use defense.²¹⁴ No mention was made of the district court's findings at the summary judgment stage.²¹⁵

206. *Advanced Computer Servs.*, 845 F. Supp. at 365. The "Sony presumption" arose from Supreme Court *dicta* which said "every commercial use of copyrighted material is presumptively an unfair exploitation of the monopoly privilege that belongs to the owner of the copyright . . ." *Sony*, 464 U.S. at 451. See also *Acuff-Rose Music, Inc. v. Campbell*, 972 F.2d 1429 (6th Cir. 1992) (relying on commercial nature of parody to deny fair use defense), *rev'd*, 114 S. Ct. 1164 (1994). This analysis is no longer valid after the Supreme Court's decision in *Campbell*, 114 S. Ct. at 1174, which rejected the application of hard presumptions in a fair use analysis.

207. *Advanced Computer Servs.*, 845 F. Supp. at 365. The court noted that the customers freely entered into license agreements that prohibited third-party access to the software. *Id.* These agreements are legitimate methods for the software producer to recoup its investment in developing the software. *Id.*

208. *Triad Sys.*, 31 U.S.P.Q.2d at 1247.

209. *Id.*

210. *Id.*

211. *Id.*

212. *Id.*

213. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1031 (9th Cir. 1995).

214. *Id.* at 1033. The Ninth Circuit said that "we detect no appreciable public benefit arising from Southeastern's practice to justify this continuance under the fair use doctrine," and that "Southeastern's use of Triad's software is *entirely* commercial in nature." *Id.* (emphasis added).

215. *Id.*

b. The Nature of the Copyrighted Work

This factor focuses on the infringed work. In general, the use of fictional and creative works weighs against fair use,²¹⁶ while the use of functional, informational, or factual works weighs in favor of fair use.²¹⁷ In *Advanced Computer Services*, the Eastern District of Virginia concluded that the software, despite being essentially functional, was a creative work, largely because the software producer had invested a large amount of time and money in its creation.²¹⁸ Thus, this factor weighed against fair use.²¹⁹ The Northern District of California in *Triad Systems*, at the summary judgment stage, analyzed to what extent the operating system software contained expression that is protectable under copyright.²²⁰ After concluding that the operating system software contained little protectable expression, and thus was more functional than creative, the Northern District of California held that this factor weighed in favor of fair use.²²¹ In contrast to its detailed analysis of the operating system software, the *Triad Systems* court summarily concluded that the diagnostic software was not as functional, so this factor weighed against fair use.²²² It is unclear how the court weighed this factor when it later rejected the ISO's fair use defense in issuing the preliminary injunction. The Ninth Circuit simply concluded the opposite without analysis when it affirmed the district court's preliminary injunction.²²³

c. The Amount and Substantiality of the Portions Copied

This factor focuses on both the copyrighted work and the infringing work. Copying an entire work usually weighs against fair use,²²⁴ but the

216. *Advanced Computer Servs. v. MAI Sys.*, 845 F. Supp. 356, 365 (E.D. Va. 1994) (noting the distinction between informational, functional, or factual works and creative works); *Triad Sys.*, 31 U.S.P.Q.2d at 1247-48 (noting that this factor reflects the idea/expression dichotomy in copyright law); see also *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1524 (9th Cir. 1992) (discussing the distinction between fictional and factual works).

217. *Advanced Computer Servs.*, 845 F. Supp. at 365; *Triad Sys.*, 31 U.S.P.Q.2d at 1247-48 (noting the dichotomy in copyright law between unprotected ideas and protected expression).

218. 845 F. Supp. at 365 & n.11.

219. *Id.* at 365.

220. *Triad Sys.*, 31 U.S.P.Q.2d at 1248.

221. *Id.* at 1249.

222. *Id.*

223. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1033 (9th Cir. 1995). The Ninth Circuit said only that "both the [operating software] and service software are protected expression," and thus copying them weighs against fair use. *Id.*

224. *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 365 (E.D. Va. 1994). But see *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1526 (9th Cir. 1992) (noting that even copying an entire work may not preclude a finding of fair use); Sony

court should perform both a quantitative and qualitative analysis,²²⁵ so copying a small but very important portion could still militate against fair use.²²⁶ This factor weighed against fair use in *Advanced Computer Services*, because the Eastern District of Virginia found that entire copies of the operating system and diagnostic software were made in RAM.²²⁷ The Northern District of California in *Triad Systems* ruled on summary judgment that although not all of the software was loaded into RAM, the portions that were copied into RAM constituted a substantial amount of the copyrighted work, and therefore this factor weighed against fair use.²²⁸ The Ninth Circuit ruled that this factor weighed against fair use because the programs were copied in their entirety.²²⁹

d. The Effect of the Use on the Potential Market

The effect of the use on the potential market is the most important factor in the fair use analysis.²³⁰ This factor examines whether the actual and potential markets for the copyrighted work would be harmed if the infringing use became widespread.²³¹ Harm to an actual market is shown by a reasonable probability that a causal connection exists between the infringing use and a loss of revenue, which the infringing party can rebut by showing that the harm would have ensued had there been no copyright infringement.²³² In addition, the copyright owner can argue against fair use by demonstrating harm to a potential market, such as those for derivative works based on the original copyrighted work.²³³

Corp. of America v. Universal City Studios, Inc., 464 U.S. 417 (holding that videotaping of entire television programs for private non-commercial use was fair use).

225. Campbell v. Acuff-Rose Music, Inc., 114 S. Ct. 1104, 1175 (1994).

226. See, e.g., Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 564-65 (1985) (copying of only 13% of the words in Gerald Ford's memoirs found to weigh against fair use because the words taken were the heart of the memoirs).

227. *Advanced Computer Servs.*, 845 F. Supp. at 366.

228. *Triad Sys. Corp. v. Southeastern Express Co.*, 31 U.S.P.Q.2d (BNA) 1239, 1249 (N.D. Cal. 1994), *aff'd in part, rev'd in part on other grounds*, 36 U.S.P.Q.2d (BNA) 1028 (9th Cir. 1995); see also *supra*, note 152 (discussing whether the amount copied into RAM affects an infringement claim).

229. *Triad Sys.*, 36 U.S.P.Q.2d at 1033.

230. E.g., *Harper & Row*, 471 U.S. at 566 & n.9.

231. *Triad Sys.*, 31 U.S.P.Q.2d at 1245; *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523 (9th Cir. 1992) (quoting *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417, 451 (1984)).

232. *Harper & Row*, 471 U.S. at 567-68. A clear example of an infringing use that harms an actual market would be the duplication of one piece of commercial software onto multiple disks and subsequent sale to the general public for half of the retail price.

233. See *id.* An example of harm to a potential market would be adapting a computer program sold commercially for one computer system to run on another computer system for which the software producer has not yet developed its program.

The Eastern District of Virginia in *Advanced Computer Services* summarily concluded that the ISOs' infringing use of its customers' MAI software harmed the actual market for fees paid by the ISOs for the license to use MAI's software, relying on the other alleged presumption that follows from a commercial use of a work.²³⁴ Although confronted with issues of fact that precluded summary judgment on this issue, the Northern District of California in *Triad Systems* examined the markets in more depth, concluding that the following markets were relevant: i) the market for licensing Triad software to primary customers—as opposed to service companies or resellers—such as auto parts dealers; ii) the market for licensing operating system software to ISOs; and iii) the market for licensing diagnostic software to ISOs.²³⁵ The court held that the ISO's use of customers' software would harm only the last two markets; that is, those regarding licensing software to the ISOs.²³⁶ Further, because the customer is licensed to turn on her computer and make a RAM copy of the operating system software, conceivably she could do so before the ISO technician began to service the machine and therefore avoid infringement.²³⁷ Because of this, the real market affected by the infringing use relates to how much the customer and/or the ISO would be willing to pay to avoid this inconvenient procedure and allow the ISO technician to start the machine herself.²³⁸ However, the court did not apply this reasoning to the market for diagnostic software.²³⁹

On appeal, the Ninth Circuit found that this factor weighed against fair use for two main reasons.²⁴⁰ First, the use does not create any new work or otherwise benefit the market.²⁴¹ Second, allowing the ISO to use the software would negatively impact Triad Systems' licensing revenues.²⁴²

234. *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 366 (E.D. Va. 1994). Similar to the first factor, this analysis is no longer valid in light of *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1177 (1994), which rejected the use of presumptions based on commercial use, at least in cases that involve more than mere duplication of a work for commercial purposes.

235. *Triad Systems*, 31 U.S.P.Q.2d at 1246-47.

236. *Id.*

237. *Id.* at 1246.

238. *Id.*

239. *Id.* It is unclear why this is so. Conceivably, a customer licensed to use the diagnostic software could start the software, thereby creating an authorized RAM copy, and then could allow the ISO technician to use the software, thus avoiding infringement.

240. *Triad Sys. Corp. v. Southeastern Express Co.*, 36 U.S.P.Q.2d (BNA) 1028, 1033 (9th Cir. 1995).

241. *Id.*

242. *Id.* The court concluded that permitting such use "would likely cause a significant adverse impact on Triad's licensing and service revenues and lower returns on its copyrighted software investment." *Id.* (quoting the district court's order issuing the preliminary injunction).

The court made no mention of the markets described by the district court on summary judgment.

Thus, despite the rejection of the defense in both *Triad Systems* and *Advanced Computer Services*, the equitable nature of the fair use defense makes it the most viable defense to infringement by RAM copies.²⁴³ Moreover, analyzing the fair use factors with a complete understanding of the nature of computer programs should result in a favorable finding of fair use.

IV. PROPOSED SOLUTIONS TO THE RAM COPY PROBLEM

A. When Copyright Law Fails

In all of these cases, the courts stand on firm ground in holding that placing a computer program into RAM creates a fixed copy that can infringe the software producer's copyright.²⁴⁴ The language of the statutory definition applies to the nature of RAM and the how the program exists in RAM.²⁴⁵ The legislative history of the relevant statutes, except for one report, reaches the same conclusion.²⁴⁶ Several cases agree, and no court has ruled otherwise.²⁴⁷ The various counter-arguments do not fare well against these authorities,²⁴⁸ and thus, the conclusion seems correct.

Yet this conclusion leads to patently unfair results. As a result of the decisions in the ISO cases, computer companies like MAI Systems and Triad Systems can obtain a legal monopoly on the market for servicing its computers.²⁴⁹ Essentially, the customer cannot obtain service from any

243. See *infra* notes 257-70 and accompanying text (proposing alternative arguments on the statutory fair use analysis in favor of finding RAM copies fair).

244. See *supra* text accompanying notes 114-54.

245. See *supra* text accompanying notes 114-54.

246. See *supra* text accompanying notes 125-28. *Contra* Litman, *supra* note 153, at 39-42 (arguing that the law is not settled on the issue and that the better result holds that RAM copies are too transitory to infringe).

247. See *supra* text accompanying notes 130-54.

248. See *supra* text accompanying notes 130-67.

249. One might argue, as the courts have done, see *supra* notes 182-85 and accompanying text, that the ISOs could continue to service MAI's customers by paying for the proper license to use the software from MAI. This assumes that MAI would license an ISO, although it has no legal obligation to do so. See *Service & Training, Inc. v. Data Gen. Corp.*, 963 F.2d 680, 686 (4th Cir. 1992); see also *supra* text accompanying notes 182-85. Furthermore, the economic incentives for MAI to license ISOs no longer exists because it is solely in the business of servicing its computers and no longer manufactures computer systems and software. *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 359 (E.D. Va. 1994).

other company.²⁵⁰ Although the courts have found that these results do not violate antitrust law, they have not yet considered the results in light of the public policies behind the grant of a copyright.²⁵¹ Furthermore, the infringing RAM copy grants to the owners of a copyright in computer software a level of control over the use of their works not available with any other copyrightable work. Because the use of any software program necessarily creates a RAM copy, unauthorized use of software always equals copyright infringement. Copyright law does not provide control over the use of a copy for any other type of work.²⁵² Arguably, Congress' change to CONTU's recommended legislation was intended to allow software owners to control the use of the work through licenses and other non-sale transfers.²⁵³ But this change should not allow software producers to avail themselves of the remedies under the Copyright Act for mere breaches of contract.

The holding that RAM copies fail to meet the statutory definition of copy, and therefore cannot infringe, alleviates these problems without jeopardizing the rights of the copyright owner. For example, this holding does not free the ISO from infringement claims based on unauthorized copying of the computer programs onto magnetic disk or tape.²⁵⁴ Also, provided the license in question prohibits access to third parties, the copyright owner would have a claim for tortious interference with contract against the ISOs who convince the customer to allow them to use

250. While this situation appears to be an antitrust violation, the ISOs have not been successful in proving such a claim. *See supra* notes 169-86 and accompanying text.

251. The Northern District of California, in refusing to grant summary judgment against the ISOs before a full factual development on the fair use issue, has gone the furthest in addressing the problem in terms of copyright policy.

252. In many respects, this may be a function of a computer program's unique status as the only type of work defined by its utilitarian nature. *See* 17 U.S.C. § 101 (1988) (defining a "computer program" as "a set of statements or instructions *to be used* directly or indirectly in a computer *in order* to bring about a certain result") (emphasis added). Generally, the purpose, use, or function of a work have no place in copyright law. *See id.* (defining "[p]ictorial, graphic, and sculptural works" to exclude the design of a useful article that is not physically or conceptually separable from the utilitarian aspects of the article, and to limit the protection under copyright to the form of the works and not their "mechanical or utilitarian" aspects); *cf.* *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903) (holding that pictorial works used in commercial advertisements are entitled to the copyright protection as much as works of fine art).

253. *See supra* note 67.

254. Note that in at least two of the ISO cases, the ISOs had possessed at their facilities unlicensed copies of the software on hard drives and floppy disks. *MAI Sys. Corp. v. Peak Computer, Inc.*, 991 F.2d 511, 519 (9th Cir. 1993), *cert. dismissed*, 114 S. Ct. 671 (1994); *Advanced Computer Servs. v. MAI Sys. Corp.*, 845 F. Supp. 356, 361 (E.D. Va. 1994).

the software.²⁵⁵ Such a holding supports the policy behind § 117, which was intended to alleviate the threat of copyright infringement created by the ordinary use of computer programs.²⁵⁶ Despite its advantages, because this position runs contrary to a number of authorities, it is unlikely to be adopted by the courts.

B. How Fair Use Can Solve the RAM Copy Problem

The best solution to the RAM copy problem is an amendment to § 117.²⁵⁷ Otherwise, the most viable solution to the problem is that the RAM copy should be deemed a fair use of a computer program. An analysis of the four statutory factors reveals that all four should weigh in favor of fair use.²⁵⁸

1. The Purpose and Character of Making a RAM Copy Make the Use Fair

With regard to the first factor—the purpose and character of the infringing use—the Supreme Court’s latest fair use case²⁵⁹ severely weakens the treatment of this factor found in the ISO cases, which places great reliance on a presumption against fair use allegedly arising from commercial use. Moreover, the purpose behind a RAM copy is the use of a computer program. This purpose comports with the definition of “computer program” and with the purpose intended by the copyright owner.²⁶⁰ That someone other than the licensee uses the program does not change this conclusion, because that type of limitation on use is a matter of contract, not copyright law.²⁶¹ Moreover, the use of software in the ISO cases was always ultimately for the benefit of the valid licensee—the customer who

255. Presumably, the copyright owner also would have a breach of contract action against the customer, although the effect that bringing such an action would have on customer relations makes this claim only theoretical.

256. See *supra* note 77 (explaining further the purpose of § 117).

257. See *supra* note 21 (describing a recent bill in Congress that would change the word “owner” in § 117 to “rightful possessor”). For an example of a proposed amendment to § 117 that is particularly user-friendly, see Stern, *supra* note 50, at 483-85.

258. See *supra* notes 187-94 and accompanying text (describing the statutory analysis of fair use under 17 U.S.C. § 107 (1988)).

259. *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1164, 1174 (1994) (holding that prior Supreme Court decisions on fair use do not require hard evidentiary presumptions arising from commercial use).

260. See CONTU REPORT, *supra* note 21, at 13 (“Obviously, creators, lessors, licensors, and vendors of copies of programs intend that [the programs] be used by their customers.”).

261. See, e.g., *National Car Rental Sys., Inc. v. Computer Assocs. Intl.*, 991 F.2d 426, 430 (8th Cir. 1993) (holding that the Copyright Act does not preempt a breach of contract claim based on a license that restricts third-party use of software because the contract created “a right not existing under the copyright law”).

needed service on his computer so he could continue using the software—so that the purpose behind RAM copies made by ISOs ultimately remains the same as that of the copyright owner — the use of the computer program by the customer.

2. *The Nature of Computer Programs Should Excuse the Infringement of RAM Copies*

Regarding the second factor, concerning the nature of the infringed work, the traditional analyses employed in the cases²⁶² overlook some obvious facts about the nature of computer programs, which are defined by the Copyright Act as works that are “to be used” by a computer.²⁶³ Thus, their “nature” entails use which necessarily results in the making of RAM copies.²⁶⁴ Therefore, the nature of computer software, when viewed in the context of the necessary creation of RAM copies, should weigh in favor of fair use.²⁶⁵

3. *The Amount and Substantiality Copied in Making a RAM Copy Does Not Preclude Fair Use*

Furthermore, the third statutory factor, regarding the amount and substantiality copied from the infringed work, weighs in favor of fair use for the simple reason that the infringing party does not determine how much and what parts of a program are copied into RAM. Rather, this is determined by the designer of the computer program.²⁶⁶ The traditional analysis of this factor depends on what the infringing party selected to copy, as is shown by its relation to the first factor, regarding the purpose and

262. In particular, in *Advanced Computer Services*, the conclusion that the computer software is creative because of the money and time invested in its production, see 845 F. Supp. 356, 365 (E.D. Va. 1994), runs contrary to Supreme Court precedent that copyright rewards original authorship, not hard work. *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 353 (1991); see also *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1527 (9th Cir. 1990) (relying on *Feist* to reject the argument that considerable time, effort, and money invested in a work militates against fair use). Note that all of the cases relied on by the court were decided before *Feist*. See *Advanced Computer Servs.*, 845 F. Supp. at 365.

263. See *supra* note 37 (defining a computer program).

264. See *supra* notes 71-90 and accompanying text.

265. An analogous situation would be where a court analyzes whether the content of a videotaped docudrama, an audiovisual work, is creative or factual to determine whether the mere viewing of the tape through a television and VCR is fair use. See *supra* note 224 and accompanying text.

266. See MALCOLM P. ATKINSON, *ENCYCLOPEDIA OF COMPUTER SCI.* 864-65 (Anthony Ralston & Edwin D. Reilly eds., 3d ed. 1993) (describing the various methods programmers use when determining how to allocate instructions and data into RAM).

character of the infringing use.²⁶⁷ Thus, the amount and substantiality of the work copied by a RAM copy should not weigh against fair use.

4. *The Making of RAM Copies Does Not Harm the Market for the Computer Program*

The harm to the potential market for the infringed work, should not weigh against the conclusion that an ISO's use of a customer's software is fair use. The relevant market is the licensing of the software to ISOs, which is allegedly harmed by the ISO's use of a customer's software in lieu of licensing its own copy. While the ISO's use of a customer's software obviates its need to license their own copy, and thus harms the software producer's market, this harm is *not* caused by the creation of infringing RAM copies, which is the precise act being analyzed for fair use. Rather, the harm is caused when the customer allows the ISO technician to *use* the software, an act that violates the license agreement, not copyright law. This position is confirmed by assuming that the use of the software did not create a RAM copy and did not infringe.²⁶⁸ In such a case, the harm to the market would still exist; that is, the ISO still would avoid paying the license fee for the use of the software.²⁶⁹

In short, courts should consider facts such as these, which reflect the nature of computer programs, in considering the fair use issue. These considerations tilt the fair use scale towards the ISO and any other user of software potentially threatened with copyright infringement claims. Furthermore, the holding that the making of RAM copies is a fair use does not upset the policies underlying copyright law and provides software users with the comfort intended by CONTU.²⁷⁰ Moreover, the fact-bound nature of the framework for analyzing fair use issues allows a court to accommodate future circumstances where the fair use of software through RAM copies may not promote the policies of copyright

267. See *Campbell v. Acuff-Rose Music, Inc.*, 114 S. Ct. 1104, 1175 (1994). On this factor, "attention turns to the persuasiveness of a parodist's justification for the particular copying done, . . . [which] harken[s] back to the first of the statutory factors." *Id.*; see *Harper & Row Publishing, Inc. v. Nation Enters.*, 471 U.S. 539, 564-65 (1985) (examining this factor in light of the reasons why the defendant selected only certain portions of the work).

268. Such a situation would occur if the program existed in permanent Read-Only-Memory, like those in calculators and electronic dictionaries, where no copy is made during the use of the program.

269. In other words, an ISO can rebut the *prima facie* case of infringement by showing that the harm to the market still would exist even if its conduct did not appropriate the software producer's work. *Harper & Row*, 471 U.S. at 567-68.

270. *Supra* note 77 (discussing CONTU's purpose).

law. For these reasons, fair use should be used by courts to prevent the inequities caused by the RAM copy problem.

V. CONCLUSION

The RAM copy presents an unusual problem in law: one where careful, correct legal analysis leads to unfair results. An amendment to § 117 would provide the best solution to this problem. Until such an amendment is enacted, rather than disregard the clear dictates of the law, the courts should strive to find an equitable solution that also results from careful and correct legal analysis. The courts can achieve this solution through the proper use of the fair use doctrine.

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